Traffic

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BY CHET SKWARCAN

Traffic Calming Investigation

Covered Bridge Neighborhood
Sellersburg, Indiana

Submitted by:

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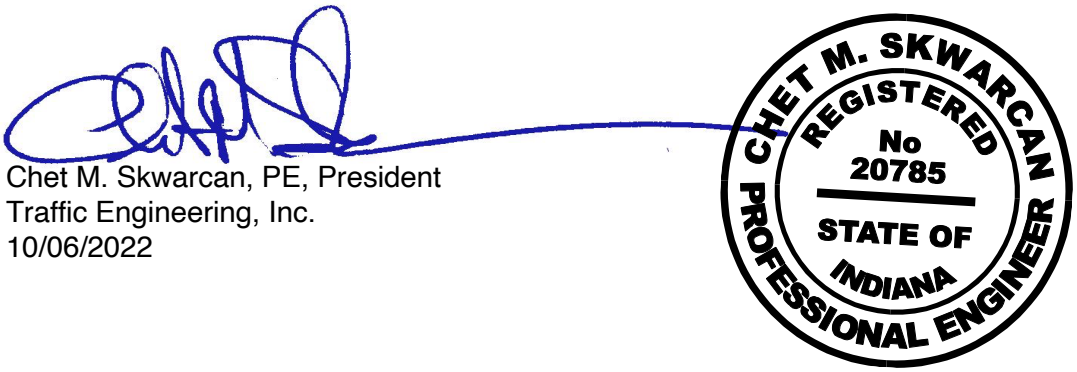
Certification

I certify this Traffic Analysis has been prepared by me or under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering.



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Traffic Engineering, Inc.
10/06/2022

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Executive Summary

The Town of Sellersburg requested a Traffic Calming Investigation for the residential neighborhood of Covered Bridge. This neighborhood is located in the north section of Town and comprises over 400 homes including the Fuzzy Zoeller Covered Bridge Golf Course. Figure 1 shows the neighborhood examined in this document.

The primary impetus for traffic calming is the desire to improve overall safety. Safety can be perceived at risk due to, 1) high traffic volumes, 2) high vehicle speeds, or 3) traffic control compliance. These three areas are the focus of this investigation.

To review existing conditions, this study:

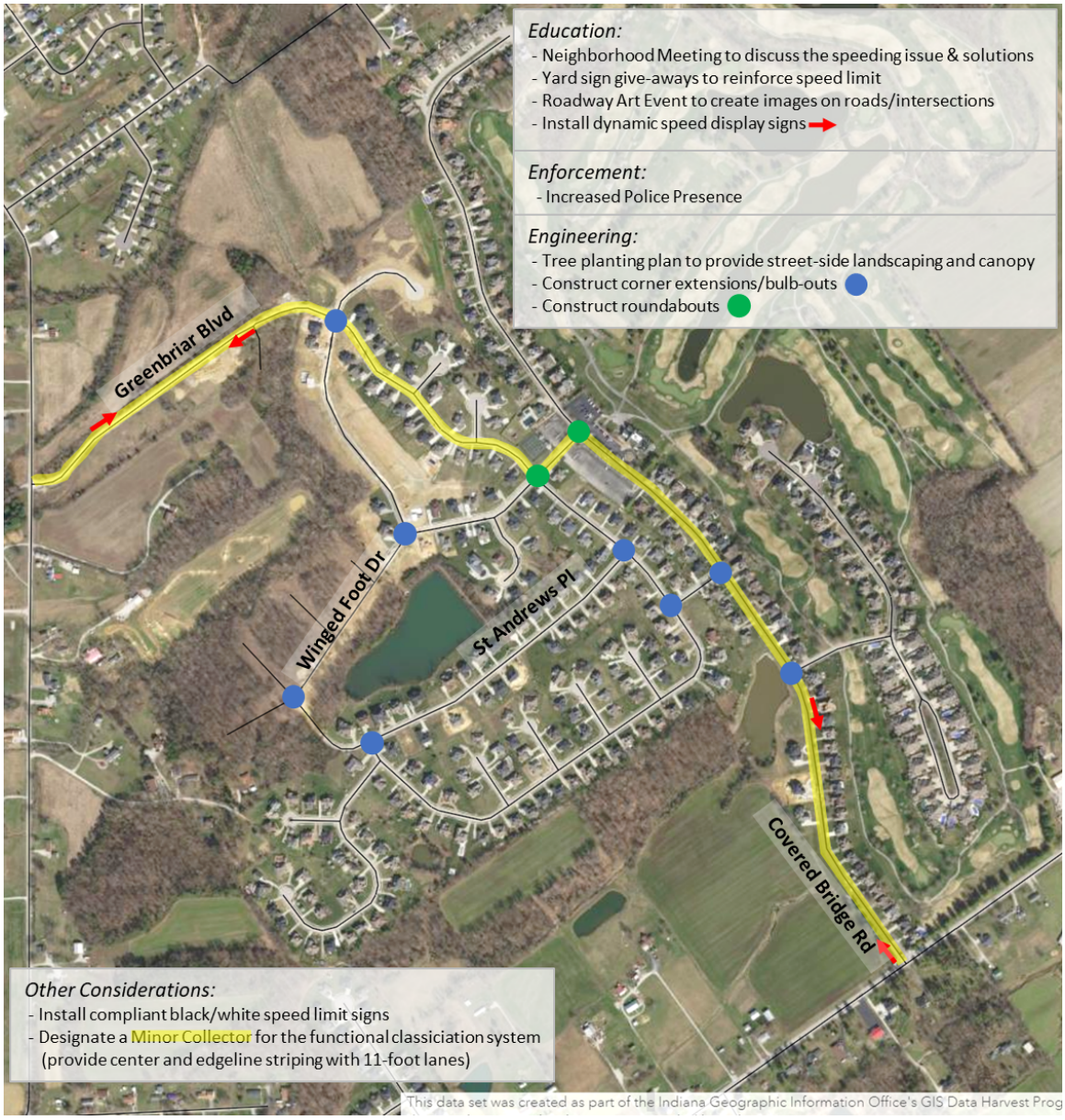
- Completed traffic counts of vehicle turning movements at key intersections
- Measured vehicle speeds along several neighborhood roads
- Observed operations at various intersections and roads during peak and non-peak time periods

Based on this review, analysis herein answers the following questions:

1. Is there a 'cut-thru' issue within this neighborhood, or are traffic volumes higher than expected?
   No. Analysis shows the traffic on neighborhood roads is typical based on the number of homes and the presence of a golf course.
2. Is speeding a concern on neighborhood roads?
   Yes. Vehicle speeds measured at seven locations show the majority of drivers are exceeding the posted speed limit.
3. Is the existing traffic control (side-street or all-way stop signs) operating as expected?
   No. Although there are no capacity issues, observations suggest a compliance issue with most drivers either rolling through or not stopping for posted stop signs.
4. Should traffic calming measures be considered for this neighborhood?
   Yes. This evaluation identified issues and concerns that could be alleviated with various traffic calming measures to control speeds and encourage safer driving behavior.
5. What traffic calming measures are recommended, if any?
   The recommended traffic calming measures are sub-divided into three categories: Education, Enforcement, and Engineering. *Education* works with residents to improve recognition of desired driving behavior along with self-enforcement. *Enforcement* uses the police to encourage safer driving through their presence or issuing warnings and tickets. *Engineering* changes the road's physical characteristics to subtly encourage safer driving. Temporary installations could be tested to gauge feasibility and acceptability before permanently changing physical characteristics.

Initial recommendations for the Covered Bridge neighborhood include all three of these categories as well as two additional considerations. The following graphic identifies specific recommendations.

Initial Traffic Calming Recommendations



Engineering recommendations could use *temporary* construction methods and materials to evaluate various concepts. The Town should also continue monitoring neighborhood traffic volumes and speeds, adjusting or providing additional traffic calming measures as determined by the effectiveness of the initial work.

Existing Traffic

Figure 1 below outlines the study area addressed in this analysis. The study area is bounded by Perry Crossing Road to the southeast and Bennettsville Road on the west. These roads are also the only access between neighborhood roads and the larger transportation network.

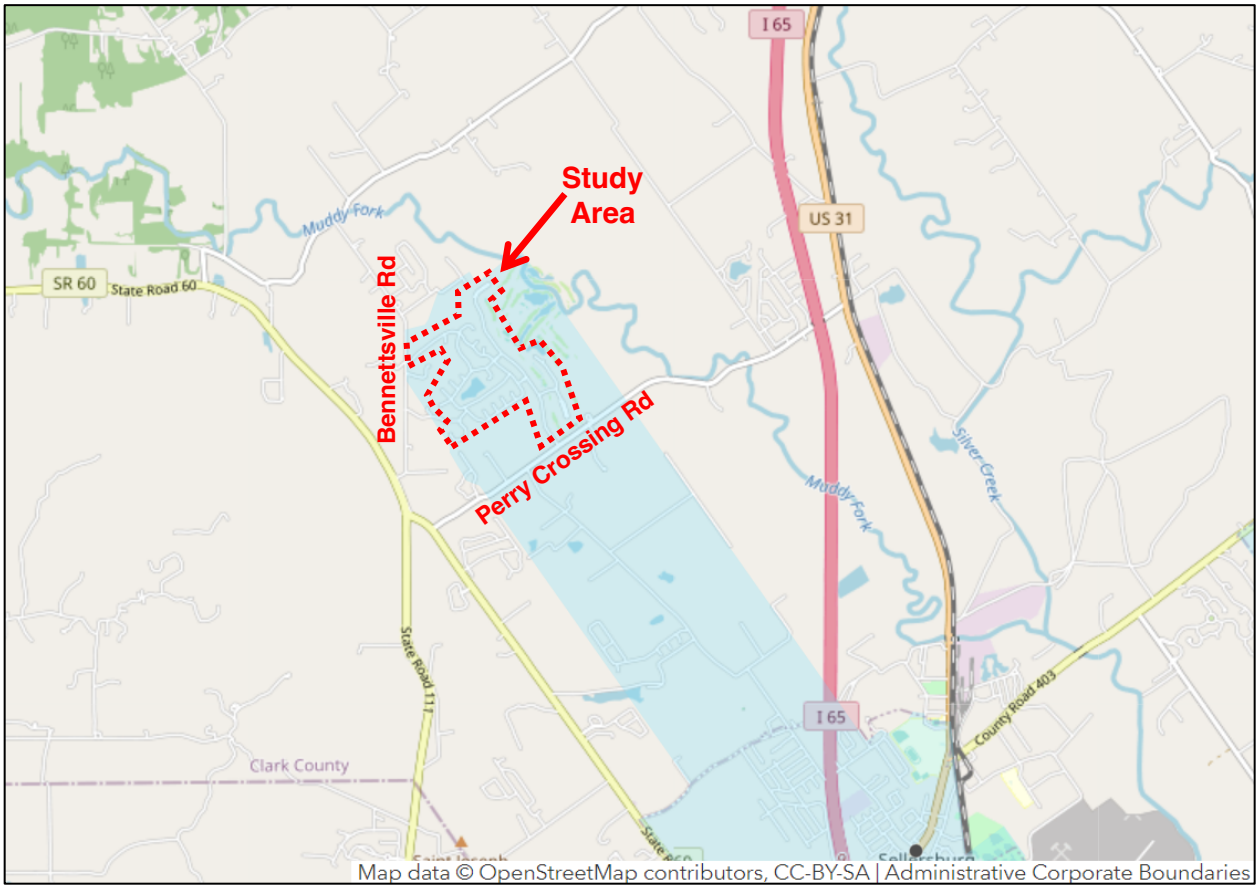


Figure 1 – Study Location, Sellersburg Indiana

As part of this analysis, traffic data was collected in late July/early August 2022, at the locations identified in Figure 2. Turning Movement locations are intersections where individual movements were captured for an average workday by time of day. Speed Data locations are where individual speeds were obtained. The Appendix contains a summary of the turning movements for each peak hour, the full 24-hour turning movement data, and speed data information.

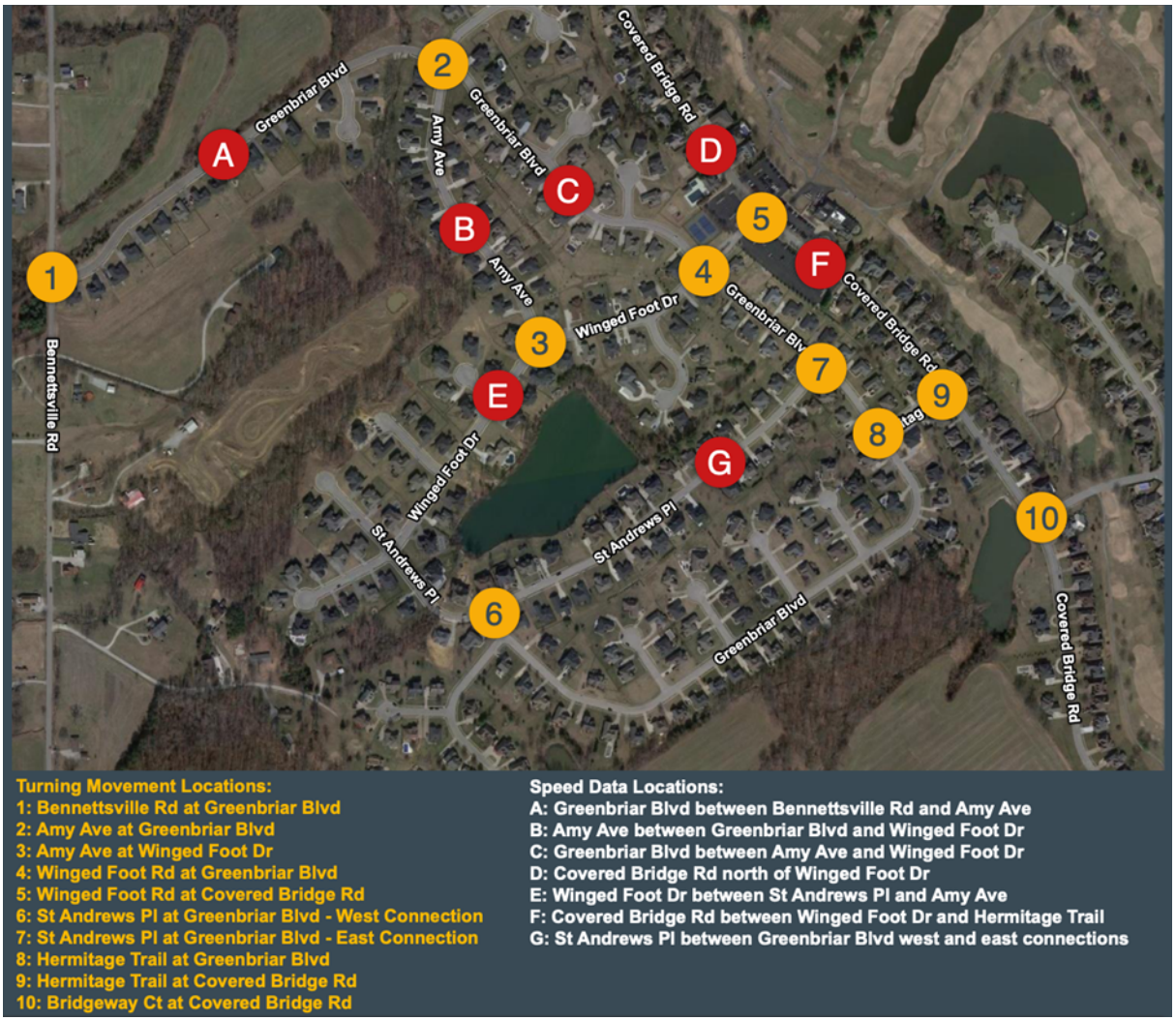


Figure 2 – Traffic Data Collection Locations

During operational reviews, the following information was noted:

- Four speed humps are positioned on Covered Bridge Road
- Sidewalks are generally located on both sides of all the neighborhood roads
- Five intersections are under all-way stop control; Amy Avenue at Greenbriar Boulevard, Winged Foot Road at Greenbriar Boulevard, St Andrews Place at Greenbriar Boulevard (east connection), Hermitage Trail at Covered Bridge Road, and Bridgeway Court at Covered Bridge Road
- Perry Crossing Road is identified as a *Major Collector* on the functional classification network in the Clark County Comprehensive Plan while other study area roads are identified as *Local*
- All roads within the neighborhood have a posted 20 mph speed limit
- Neighborhood roads provide two lanes of travel with parking on either side
- Center medians are provided at the entrances to the neighborhood (Covered Bridge Road at Perry Crossing Road and Greenbriar Boulevard at Bennettsville Road) and the connections near the golf course club house (Hermitage Trail at Covered Bridge Road and Winged Foot Drive at Greenbriar Boulevard)

Operations Review

Depending upon the source, the volume capacity for a two-lane road can be up to 18,300 vehicles per day (vpd) assuming left/right turn lanes are provided at all intersections. While that can represent the physical number of vehicles defining uncongested (below 18,300 vpd) and congested (at or above 18,300 vpd), residents who live along local roads typically view traffic much differently. A 'livability' volume is the preferred metric in those cases, representing a traffic volume level where residents feel safe and comfortable to walk or ride bicycles in the street as well as enter or exit driveways.

Research from various states indicate a volume of 1,500 vehicles per day as a perceived threshold where residents become concerned about traffic levels and need increased caution when using the local road. Ideally, volumes of 1,000 vehicles per day or less, correspond with residential satisfaction and comfort.

Table 1 provides the daily volume for the primary neighborhood roads in the study area. As shown, most roads in the study area are below the livability threshold. The exception is Covered Bridge Road between Hermitage Trail and Perry Crossing Road. This segment represents the more desired of two accesses to and from the neighborhood due to its broader reach in the regional transportation network and providing direct access to the golf course. This road segment serves more as a Collector Road in the functional classification network, collecting traffic from the local roads to access a Major Collector (Perry Crossing Road).

Table 1 – Daily Volume Information

Road Name	Segment Ends	Daily Vol.[1]
Covered Bridge Road	North of Winged Foot Dr Winged Foot Dr to Hermitage Tr Hermitage Tr to Bridgeway Ct Bridgeway Ct to Perry Crossing Rd	450 vpd 1,300 vpd **2,300 vpd** **2,500 vpd**
Greenbriar Boulevard	Bennettsville Rd to Amy Ave Amy Ave to Winged Foot Dr Winged Foot Dr to St Andrews Pl (east) St Andrews Pl (east) to Hermitage Rd Hermitage Rd to St Andrews Pl (west)	825 vpd 450 vpd 400 vpd 650 vpd 550 vpd
Amy Avenue	Greenbriar Blvd to Winged Foot Dr	325 vpd
Bridgeway Court	Covered Bridge Rd to Hummingbird Way	450 vpd
Winged Foot Drive	St Andrews Pl to Amy Ave Amy Ave to Greenbriar Blvd Greenbriar Blvd to Covered Bridge Rd	475 vpd 450 vpd 675 vpd
St Andrews Place	Winged Foot Dr to Greenbriar Blvd (west) Greenbriar Blvd (west) Greenbriar Blvd (east)	175 vpd 525 vpd
Hermitage Trail	Greenbriar Blvd to Covered Bridge Rd	1,050 vpd

[1] Vehicles Per Day = vpd; the counted daily volume on each road segment rounded to the nearest 25. Often multiple counts were completed on a segment. The volume shown is the highest count recorded

Existing turning movement counts were evaluated against historical data from the Institute of Transportation Engineers' (ITE) Trip Generation Manual. Examining the entering and exiting traffic volumes at key locations against expected traffic based on the number of homes and golf

course traffic can determine if 'cut-thru' traffic exists. Table 2 presents the trip generation information and comparison traffic counts. Based on this information, existing volumes are consistent with historical data. This suggests 'cut-thru' traffic is not an issue and almost all traffic has an origin or destination within the study area.

Table 2 – Trip Generation Comparison

Area	Trip Generation Data[1]	Traffic Counts[2]
Study Area without Covered Bridge Road	273 Homes 1,287 Entering Trips Expected 1,287 Exiting Trips Expected	Data from Intersections 1, 4, & 9 1,229 Entering Vehicles 1,279 Exiting Vehicles
Entire Study Area	412 Homes + Golf Course 1,996 Entering Trips Expected 1,996 Exiting Trips Expected	Data from Intersections 1 & 10 1,655 Entering Vehicles 1,622 Exiting Vehicles

[1] ITE Trip Generation rates for single family residential homes and an 18-hole golf course
[2] Summed vehicle total from the individual turning movement count data for each identified intersection

The turning movement volumes along with existing traffic control determined the average delay per intersection during both the AM and PM peak hour. Delay calculations were performed in accordance with the Highway Capacity Manual using the PTV Vistro software package.

Table 3 shows the analysis results for the AM and PM peak hours, in terms of the overall intersection results. The full calculations for each study scenario, including Level of Service (LOS) grades and queue lengths, are included in the Appendix. In general, a LOS D is considered acceptable while LOS F suggest a volume exceeding the capacity of the intersection. As shown in the table, most intersections operate at LOS A, and all intersections have low vehicle delays.

Table 3 – Intersection Level of Service Results

Intersection	Existing LOS[1]	
	AM Peak	PM Peak
1. Bennettsville Rd at Greenbriar Blvd	9.6 [A]	10.0 [B]
2. Amy Ave at Greenbriar Blvd*	7.5 [A]	7.0 [A]
3. Amy Ave at Winged Foot Dr	8.8 [A]	8.9 [A]
4. Winged Foot Rd at Greenbriar Blvd*	7.6 [A]	7.1 [A]
5. Winged Foot Rd at Covered Bridge Rd	9.4 [A]	10.1 [B]
6. St Andrews Pl at Greenbriar Blvd (west)	8.7 [A]	8.8 [A]
7. St Andrews Pl at Greenbriar Blvd (east)*	7.6 [A]	7.1 [A]
8. Hermitage Tr at Greenbriar Blvd	9.6 [A]	9.2 [A]
9. Hermitage Tr at Covered Bridge Rd*	7.3 [A]	7.9 [A]
10. Bridgeway Ct at Covered Bridge Rd*	7.7 [A]	7.9 [A]

* Intersection under all-way stop control.
[1] The overall average delay per vehicle in seconds and associated Level of Service based on the HCM analysis. For side-street stop-controlled intersections, the delay represents the wait time for vehicles at the stop sign.

Table 4 presents a summary of existing speeds. Data from seven locations indicates the majority of drivers are exceeding the posted speed limit. Drivers tend to drive a speed at which

they feel comfortable based on the surrounding corridor characteristics. The 85th percentile speed measurement is accepted as that 'comfort-level' speed. In this case, the collected data suggests the current conditions do not reflect the posted speed limit.

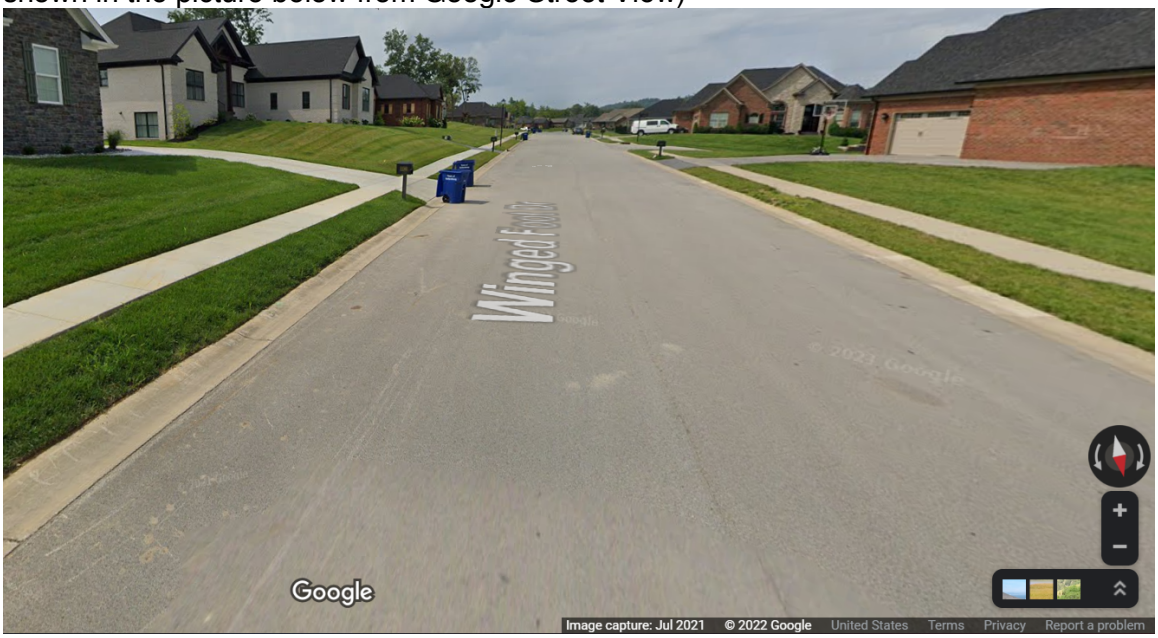
Table 4 – Speed Data

Road Name	Segment Ends	Direction	Average Speed[1]	85th %ile Speed[2]	10-mph Pace[3]
A. Greenbriar Boulevard	Bennettsville Rd to Amy Ave	Eastbound Westbound	28 mph 29 mph	34 mph 34 mph	22 to 32 mph 23 to 33 mph
B. Amy Avenue	Greenbriar Blvd to Winged Foot Dr	Northbound Southbound	24 mph 24 mph	29 mph 30 mph	18 to 28 mph 16 to 26 mph
C. Greenbriar Boulevard	Amy Ave to Winged Foot Dr	Northbound Southbound	24 mph 23 mph	29 mph 27 mph	18 to 28 mph 18 to 28 mph
D. Covered Bridge Road	North of Winged Foot Dr	Northbound Southbound	25 mph 22 mph	29 mph 26 mph	19 to 29 mph 17 to 27 mph
E. Winged Foot Drive	St Andrews Pl to Amy Ave	Eastbound Westbound	24 mph 24 mph	28 mph 31 mph	19 to 29 mph 19 to 29 mph
F. Covered Bridge Road	Winged Foot Dr to Hermitage Tr	Northbound Southbound	24 mph 24 mph	28 mph 29 mph	20 to 30 mph 19 to 29 mph
G. St Andrews Place	Greenbriar Blvd west and east ends	Eastbound Westbound	27 mph 27 mph	33 mph 31 mph	22 to 32 mph 22 to 32 mph

[1] Average Speed is the median speed with half the vehicles measured above it and half below it
[2] 85th Percentile Speed is the speed at which 85 percent of the vehicles are at or below and is typically used to help set posted speed limits
[3] 10-mph Pace is the range of speed the majority of vehicles are traveling

Observations of the area operations also revealed the following:

- Many roads had a 'wide-open' feel, which generally translates into faster vehicle speeds, with a limited or non-existent tree canopy and few if any vehicles parked on-street (as shown in the picture below from Google Street View)



- Approximately 1/3 of drivers completed what could be considered a full stop at stop signs with most rolling through the sign and a sizable number not stopping at all

- Sight distance appears generally acceptable at intersections
- Although parking is allowed, very few vehicles were observed parked on-street

A check of the all-way stop control warrant suggests all-way control may not be appropriate based on the existing volumes and operational characteristics.

Summary of Issues

Traffic calming uses physical design and other measures to improve safety for motorists, pedestrians, cyclists, and other roadway users. It is a tool to combat excessive volumes, speeding, and other unsafe behavior of drivers. The goal is to encourage safer, more responsible driving within a neighborhood.

Before implementing any traffic calming measures, it is beneficial to determine the concerns or issues that might call for these tools. Based on the traffic data collected, analysis performed, and observations completed, the Covered Bridge neighborhood:

- Does not have a vehicle volume or 'cut-thru' issue. Volumes on the roads are generally within a livability threshold -- the exception is Covered Bridge Road, which does exceed this threshold examined
- Has a vehicle speed issue with the majority of drivers exceeding the posted 20-mph speed limit
- Has a non-compliance issue with stop signs, particularly around the all-way stop control intersections, with most drivers rolling through or not stopping at all

Given these findings, traffic calming is an appropriate consideration to slow vehicles and improve stop compliance. The three general categories of traffic calming are:

1. Education
2. Enforcement
3. Engineering

Each is examined separately in the following sections.

Traffic Calming - Education

Education refers to working with residents to correct driver behavior using information and neighborhood awareness. Speed message signs are and educational tool to bring awareness to driver speeds. The options included under *Education* are:

- **Neighborhood meetings**. Host one or more neighborhood meetings with residents to discuss driving habits. Volume and speed information such as that provided in this report is presented. Other important data, such as pedestrian risk of injury by speed, police officer discussion of speeding impacts, and discussion of speeding fines can also be part of the meeting. By itself, a meeting is unlikely to reach all drivers in the area nor result in lasting change. Typically, this meeting agenda is paired with the discussion of other traffic calming measures proposed or planned for implementation. Another benefit of these meetings is the opportunity for neighbors to talk to each other about speed concerns.

- **Informational Signs**. Yard signs can vary (Drive Like you Live Here, 20 is Plenty, Check Your Speed, SLOW DOWN Watch for Children and Pets), but are intended as a reminder to passing motorists to obey the posted speed limit. The signs are designed to be placed on private property. Some agencies provide these signs for free with limited effort by residents other than stopping by Town Hall. The impact of these signs on vehicle speeds may be minor, but they represent continual effort on the part of an agency to work with residents. Examples are shown below.

- **Road Art**. An opportunity to have local artists create murals and designs in intersections or along the corridor. The goal is to improve driver attentiveness while going through an area, and likely slow to observe the images. Limited research is conflicted in whether the images provide a positive or negative benefit to traffic speeds and/or crashes, with most simply showing a neutral impact on traffic. An event to paint the road is a good way to build community and opportunity to discuss vehicle speeds and impacts. Examples of some road art is shown below.

- **Dynamic Speed Display Sign**. Typically paired with the posted speed limit sign, these installations provide instant feedback to drivers. The speed is shown and often blinks when the speed limit is exceeded. Studies have shown these signs to be effective in reducing speeds. These same studies caution that the reduced speed impact wears off after a distance and can decrease over time as drivers become used to the sign. A great application is installing these signs at the primary entrances to a neighborhood to better alert drivers of the change to a local road. In this case, two key locations are Covered Bridge Road north of Perry Crossing Road and Greenbriar Boulevard east of Bennettsville Road. Other road locations could be considered after deployment and review of these two initial spots.

Mobile speed display signs are another option for providing instant driving speed feedback. Rather than set at one location, the mobile device allows periodic review of multiple locations over time. These devices are most often purchased and used by the police and deployed where a permanent installation is not practical or desired, where complaints are lodged, or where vehicle speeds are a known issue. Deployment can range from a few hours to a couple weeks and can be redeployed to the same location when needed to re-enforce the desired driving behavior.

These educational programs are less expensive to implement compared to geometric changes to the roadway and can provide an opportunity for community building. All four items presented are recommended for the Covered Bridge neighborhood.

Traffic Calming - Enforcement

Enforcement of speed limits generally requires an increased level of **Police Presence** and speed monitoring to change driver behavior. Warnings and tickets provide strong incentive to adjust driving behaviors. Increased police presence can range from a few extra patrols driving through the neighborhood to a blanketed effort to catch as many speeders as possible over a limited timeframe.

In either case, increased police presence and enforcement is not sustainable indefinitely nor over a long period. The impact of police presence on vehicle speeds fades over time, requiring periodic increases in enforcement to ensure lasting changes. A period of increased police presence is recommended to be paired with the *Education* and *Engineering* calming recommendations. Ideally, this increased presence would be announced beforehand to demonstrate the Town is interested in lower vehicle speeds, not ticket revenue.

An alternative or supplement to direct police enforcement is a **Radar Gun Loan Program**. This program is aimed at allowing residents to assist the police in observing vehicle speeds. With proper registration and after attending a training session, a radar gun is loaned to a resident for one or more days. The resident monitors vehicle speeds, noting the license plate of speeding vehicles. Warning letters can then be sent to the vehicle owners to provide notice of speeding offense. This type of program reduces the reliance on police and can be implemented as often as residents are willing to spend their time.

Another benefit for residents is seeing the actual vehicles and adjusting their perceptions accordingly. Every car can feel like it is going too fast when in your yard. The reality is often that many drivers are obeying the speed limit and traveling safely.

A key part of the training is knowing to avoid escalation with drivers. The resident's task is to record speeds, not confront a driver. Safety for the resident must remain the top priority. Liability waivers or other forms of protection in addition to the training session may be necessary for the Town to implement this program.

Given the logistics and cost, both time and money, this option is not part of the initial recommendations. It could be explored to a greater degree in the future based on the results of the initial work and interest from residents.

Traffic Calming - Engineering

Structural changes in the right-of-way to change the driving experience so drivers no longer feel comfortable traveling at higher speeds. Options included under *Engineering* are:

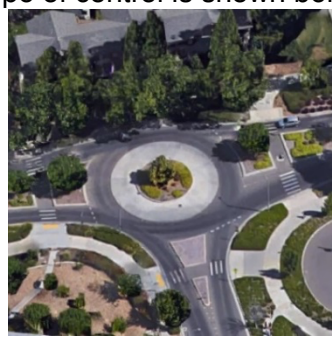
- **Landscaping**. As noted, many of the neighborhood streets have few trees and/or few trees located close to the road to create a canopy. This type of landscaping not only is viewed as an amenity by residents but helps reduce the wide-open feeling that encourages faster vehicle speeds. Other landscaping elements can create a similar feeling, but a tree canopy is preferred. The Town could create a tree planting program, creating guidelines for interspersing multiple species and various distances from the road and sidewalk within the right-of-way. An example of a mature tree canopy is shown below.

Landscaping is a long-term project that is recommended to start with the other recommendations as the full realization of this option may take years.

- **Corner Extension or Bulb-out**. Applied at intersections, this element reduces the roadway width on the approach to an intersection. Drivers react to a narrowing road by slowing down. Similarly, the corner radius can be reduced, slowing the right turn movement. Extensions also create a protective parking bay, reduce the crossing distance for pedestrians, and can create space for landscaping assuming sight distance is not impeded. Examples of corner bump-outs are provided below.

Extending the corners to reduce the travel lanes through the intersection is initially recommended for several intersections: Amy Avenue at Greenbriar Boulevard, Amy Avenue at Winged Foot Drive, St Andrews Place at Winged Foot Drive, St Andrews Place at Greenbriar Boulevard (west), St Andrews Place at Greenbriar Boulevard (east), Hermitage Trail at Greenbriar Boulevard, Hermitage Trail at Covered Bridge Road, and Bridgeway Court at Covered Bridge Road. If desired, additional intersections could also be adjusted in the future.

- **Traffic Circles or Roundabouts**. Although often used interchangeably, these are two different types of circular intersections. A traffic circle is a raised island placed in the middle of an intersection. No other design changes to the intersection are made with a neighborhood traffic circle. A roundabout includes an approach median and includes other design changes to improve traffic flow and better accommodate large trucks. Either option could be a good fit for the existing all-way stop-controlled intersections. The center island pushes drivers to the outside of the intersection in a circular motion. Vehicle speeds decrease on approach and through the intersection as the direct path is changed. An example of each type of control is shown below.


Roundabouts are initially recommended for two intersections: Winged Foot Drive at Greenbriar Boulevard and Winged Foot Drive at Covered Bridge Road. Compact or mini-roundabouts (drivable concrete center island for trucks instead of a landscaping) would minimize impacts to the surrounding developments without compromising the desired safety benefits. Additional intersections could be considered for this treatment in the future.

- **Raised Intersection**. Usually installed at all-way stop-controlled intersections, a raised intersection is a flat raised area across the entire intersection. The intersection is then at the same level of the sidewalk, eliminating the need for pedestrian ramps. Sometimes textured materials and coloring is used to differentiate the raised area. The raised intersection improves stop sign compliance and reduces speeds around the intersection. It is also considered more pedestrian friendly to those crossing. They are used instead of speed humps in some situations. Although an effective tool for traffic calming, raised intersections can have a number of design issues, like drainage, to overcome. These devices also slow emergency vehicles.


Raised intersections are not initially recommended, but could be considered later.

- **Street Narrowing**. Research has shown a general correlation between lane width and vehicle speeds for residential roads. Several methods are available to reduce the road

width and, thus, reduce vehicle speeds. Applying pavement markings, like the centerline and edge line striping, creates the appearance of narrower lanes compared to the actual pavement available. Adding a median, like what has already been done on the approaches to four intersections in the neighborhood, pushes traffic to each side in narrower lanes. Physically reducing the width of the road is another option to consider for future construction projects. Rumble or mumble strips are not recommended here due to the noise impacts on surrounding homes.

The current width of the local roads is about 30 feet. Keeping parking on both sides, the physical road could be reduced to 26 or 28 feet. Based on experiences in other areas, even a two-foot reduction in width reduces driver speeds.

Roadway narrowing is recommended in conjunction with the designation of a Minor Collector route through the neighborhood (discussed in the *Other Considerations* section). Using yellow center-line and white edge-line pavement markings, 11-foot lanes could be striped on the route between Bennettsville Road and Perry Crossing Road using Greenbriar Boulevard, Winged Foot Drive, and Covered Bridge Road.

- **Speed Humps**. Already in use on Covered Bridge Road, a speed hump creates a vertical element in the road that physical slows vehicles. Speed hump should be used in a series, roughly 300 to 500 feet apart, to continuous impact traffic speeds. Although effective, speed humps are usually viewed poorly by residents and drivers alike. Issues include increased noise from braking and accelerating, driver discomfort depending on the abruptness of the hump, impacts to emergency vehicles, and snow removal difficulties.

  Speed humps are not recommended for this neighborhood due to the negative impacts and general dislike amongst drivers and residents. Depending on the success of other implemented options, removal of the existing speed humps could be considered.

All these geometric engineering options need review and design before implementation. These changes impact drainage, snowplowing, street cleaning, and other elements. Long-term maintenance and durability can also be a concern depending on the design details.

Permanent changes to the road are expensive compared to the education and enforcement options presented. The Town could also consider temporary installations to test the feasibility and neighborhood acceptance. Delineators and pavement markings are less-expensive ways to test these changes and can be removed easily if found to be inappropriate for the neighborhood. Some companies offer temporary roundabouts or traffic circles using rubber or a similar material type. Examples of temporary installations are shown below.

Other Considerations

While observing the area and operations, several related items were noted that do not necessarily fall under the previous sections of this report. The items below could be considered relevant issues for the Town to consider as it reviews the traffic calming options.

- **Regulatory Speed Limit Signs**. Most of the existing speed limit signs have yellow lettering on a brown background. These signs do not adhere to the federal standard black on white regulatory signs.

  While a sign by itself does not guarantee compliance, it is recommended to update all posted speed limit signs to the compliant black on white style.

- **Functional Classification Update**. The existing designation of the neighborhood roads is Local, meaning they provide access to individual homes. The purpose of a functional classification system is to provide for safe and efficient traffic movement within and between areas like towns and cities. It is important to set expectations for residents that some roads are expected and intended to have more traffic than others.

  For the Covered Bridge neighborhood, the primary route is Covered Bridge Road to Winged Foot Road to Greenbriar Boulevard. This route connects the two access points of the area and provides connection to the golf course. This route is recommended to be identified as a Minor Collector to recognize that purpose. While volumes and speeds should still be monitored and calmed as required, both driving elements could be expected to be higher than other roads in the neighborhood. As discussed in the *Engineering* section, center and edge pavement markings could be added to identify this new higher order road and reduce the travel lane widths.

- **Yield Signs**. Compliance at the stop signs is a noted issue. With relatively low traffic volumes, drivers are come to recognize that a full stop is likely 'unnecessary'. The stop signs do not provide speed control and, if not warranted or justified, can lead drivers to disrespect other signs. For many intersections, yield signs may be an appropriate alternative. 'No control' could also be option for those intersections with the least amount of traffic.

  This change is not recommended as part of this report but should be further considered as part of a systemwide review by the Town on how best to control low volume, Local Road intersections.

- **Improve Outside Connections**. One option to reduce traffic volume on Covered Bridge Road north of Perry Crossing Road is to increase the desirability of other routes. Currently, almost three times as much traffic uses the Covered Bridge Road access (about 2,400 daily trips) as compared to the Greenbriar Boulevard access (about 800 trips). For instance, a Greenbriar Boulevard connected west to State Road 60 would be a more convenient route to the highway for many residents. The result would be more traffic to this access and better balance between the two neighborhood accesses.

  An alternative option is to create another neighborhood access to Perry Crossing Road, potentially a future extension of Vardon Vista or Magnolia Point. A new access would reshuffle the travel patterns and potentially accommodate up to half of the current Covered Bridge Road traffic to and from Perry Crossing Road. In that scenario, the

volumes would be reduced closer to the livability threshold discussed earlier in this report.

These options are not initially recommended (see page 5). An extension of Greenbriar Boulevard to State Road 60 could be considered as part of the area-wide transportation network development.

APPENDIX (separate document)

Collected Traffic Data

Level of Service (LOS) – Analysis