



# MEMORANDUM

DATE: January 12, 2024

TO: Mayor Jeffrey Caggiano  
Board of Public Works

FROM: Raymond A. Rogozinski, P.E., Director of Public Works

RE: Traffic Investigation/Calming (Ridge Road, Brier Road & East Road)

The City has received a request from residents on Ridge Rd and Brier Rd to install traffic calming measures to reduce the volume of traffic. As part of this investigation, DPW has accumulated available historic roadway and traffic data to evaluate the potential need, impact, options, and benefits of traffic calming. The specific area of study included Ridge Road, Brier Road, and a portion of East Road (from Brier Rd to South St). However, evaluation also included traffic along Willis St, East Rd (Brier Rd to Wolcott Rd), Wolcott Rd, and South Street. A copy of a street maps of the referenced areas is attached.

A summary of the current roadway classification of the streets in question is provided below:

BRISTOL ROAD FUNCTIONAL CLASSIFICATION	
East Rd	Major Collector
Willis St	Minor Arterial
South St	Minor Arterial
Wolcott Rd (CT Route 69)	Other Principal Arterial
Ridge Rd	Local
Brier Rd	Local

Roadway functional classifications, in part, indicate the hierarchy of roads with respect to use. For example, roads classified as Collectors, support a higher traffic volume than roads classified as Local. The hierarchy of road functional class, from highest to lowest traffic volumes, consist of: Other Principal Arterial, Minor Arterial, Major Collector, and Local. With that said, the roadway functional classification definitions do not include specific traffic volume criteria for all classifications, and a change in traffic volume may not change the roadway functional classification. It should also be noted that the roadway construction does not determine roadway functional classification. Portions of East Rd, between Wolcott Rd and Willis St, are not as wide (pavement width) as the portion of East Rd located north of South St, Ridge Road, and Briar Rd.

A link to the CT DOT roadway functional classification map is provided below:

<https://connecticut-ctdot.opendata.arcgis.com/apps/76c04dd1fb5b4933a0aefa12c632457c/explore>

As indicated above, although roadway functional classifications are note associated with specific traffic volumes there is guidance within the traffic engineering professional community that recommends the design of Local Roads for 1000 vehicles/day.

DPW evaluation also included the temporary installation of traffic barrels, signage, and cones at the corner of Brier Road and East Road. The referenced measures were installed as a temporary “pilot” traffic calming measure to deter right-hand turns from East Rd onto Brier Road. Implementation of temporary measures appear to have reduced traffic volume on Ridge Road & Brier Road. However, it is unknown whether or not they addressed Ridge Rd/Brier Rd resident concerns. The Department of Public Works was contacted by several East Road residents indicating concerns with increase traffic volumes associated with DPW’s installation of the pilot/traffic calming measures.

**Existing Conditions (Speed Limit, Roadway Width, Sidewalks, Traffic Control):**

The DPW utilized traffic counts and traffic data obtained from Bristol Police and NVCOG (regional planning), and data obtained directly by DPW utilizing UCONN equipment. Based on a review of the data, and the evaluation of the data with the Bristol Police Department, it appears their data was corrupted by South St traffic, and therefore, was not used by DPW.

A summary of road traffic data is provided below:

**Ridge Road**

The speed limit is 25MPH, the street is 28-30 feet wide (from GIS), there are no sidewalks, and there is a stop sign control at South Street.

Traffic counts were taken: North of Brier Road (UCONN) 587, (11/16/23), 650 (11/17/23), 483 (11/18/23), 378 (11/19/23), 683 (11/20/23), 672 (11/21/23), AADT – (CTDOT) 900 (2021), 650 (2020), 500 (2013), 350-400 (2009), 500 (2006), unknown location (NVCOG) preliminary 1000 (2023), BPD 1299-2391 (not confirmed), and east of Father Crudele Drive (CTDOT) 150 (2021), 100 (2020), 150 (2009, 2013). The directional traffic north of Brier Road was (UCONN) 2023 48.8% NB, 51.2% SB and the peak hours were 7-8 a.m. SB and either 4-5 or 5-6 p.m. NB. The crash history: (last 5 years) 6 at intersection with South Street, 1 between Brier Road and South Street (source UCONN Crash Repository). The speed study was conducted near the midpoint from Brier Rd to South Street by UCONN. The data for both directions had a mean speed of 31.2, and 36 mph for the 85% total speed in both directions combined.

### East Road

The speed limit is 30 MPH from Greystone Avenue to South Street, 25 MPH from Wolcott Road to Greystone Avenue. The street is 23-44 feet wide (from GIS), and has sidewalks on the northside from Wolcott Street to Willis Street. There is a mid-block crosswalk at Union Street and Beecher Road. There are stop signs at Greystone Avenue, Willis Street, Hull Street, Wolcott Street, and South Street. East Road is also offset several feet from south to north approaching Brier Road (see photo), which could be a roadway departure concern.

Traffic counts were taken: East of Seymour Street (CTDOT) 4100 (2021), 3100 (2020), 4800 (2015), 3100 (2013), 3600 (2006). Counts were taken north of Brier Road by (UCONN). The directional traffic east of Seymour Street was (CTDOT) 53% EB, 47% WB Street (2021), and north of Brier Road (UCONN) 2023 53.8 % NB, 46.2 % SB. The peak hours of traffic from 2023 are either 7-8 a.m. or 8-9 a.m. NB and 4-5 p.m. or 5-6 p.m. SB. The crash history: (last 5 years) 20 at intersection with South Street, 25 at intersection of Wolcott Street, 36 at Willis Street where the intersection is offset north/south, 18 between Wolcott Street and Willis Street East Road (source UCONN Crash Repository). The speed study was conducted near the midpoint from Brier Rd to South Street by UCONN. The data for both directions had a mean speed of 37.6 and 41 mph for the 85% total speed in both directions combined. The speeds for the southbound traffic were approximately one mph lower than the mean, but the same for 85% total and the northbound traffic was slightly higher for the mean, and one mph higher for the 85%.

### Brier Road

The speed limit is 25 MPH, the street is 28-34 feet wide (from GIS), there are no sidewalks, and a stop sign is located at Ridge Road.

AADT (CTDOT) Estimated 750 (2021),  
Directional AADT Unknown  
Crash History (last 5 years) 1 in 2019

It was determined that the distance to drive from East Road to Brier Road, and Ridge Road to South Street is a couple of hundred feet shorter than taking East Road to South Street to the Ridge Road intersection. Additionally, it was determined to be one to two minutes shorter in travel time to drive from Wolcott Street to South Street via East Road, versus going from Wolcott Street to South Street to East Road, due to 4 traffic signal-controlled intersections on South Street. The time evaluations were conducted during mid-morning and mid-day periods.

Upon visual examination of the Ridge Road and East Road at South Street intersections from 7:30 to 8:00 a.m. on Wednesday, November 15, 2023, we witnessed various queue lengths of northbound traffic at both intersections. The queues, at times, got to two vehicles on Ridge Road, and six vehicles or greater on East Road. The consistent flow of traffic on South Street did not provide for adequate gaps for vehicles to turn onto South Street, causing the delays. We also had a significant wait trying to turn left onto East Road from South Street traveling in the westbound direction. Gaps for the easterly bound traffic stream were extremely limited. It was also observed that the vehicles waiting to turn from East Road to South Street were stopped on the crosswalk, and when a pedestrian in a wheelchair tried to cross the intersection, they were forced outside the crosswalk, and had to go around a stopped vehicle.

An intersectional review was made at intersection of Ridge Road and East Road at South Street. It was determined that the intersectional sightline is significantly better from Ridge Road versus East Road, and the intersection angle for Ridge Road at South Street is also better orientated when taking a right turn onto South Street. While on East Road, we had a discussion with a resident that has lived there for many years, and he stated that he travels southerly on East Road to exit onto South Street via George Street to be able to take a left turn onto South Street, rather than try and turn left onto South Street from East Road. South Street also has an exclusive left turn lane westbound onto Ridge Road while there is no separate lane at East Road. The existence of the left turn lane from South Street coming from Mountain Road provides for protection for vehicles turning onto Ridge Road, while westbound left turning vehicles onto East Road have to use the through lane. Vehicles currently bypass left turning vehicles by crossing over the northerly shoulder edge line.

As previously indicated, temporary traffic calming measures were installed on Brier Road at the intersection of East Road on Thursday, October 5, 2023, between 7 and 8 a.m., and removed on November 17, 2023. These measures included narrowing the southerly side of Brier Road with barrels, installing a "Local Traffic Only" sign, and placing delineators in the center of the street (see attached photos). The Regional Planning Agency, The Naugatuck Valley Council of Governments (NVCOG), provided counts the week of October 5<sup>th</sup>, and the counts showed a reduction in traffic greater than 40% northbound on Ridge Road due to the traffic calming measures. However, the November UCONN counts showed a 12.6% reduction. The change in reduction is likely due to driver familiarity with the temporary measures, but they still had some effect. The City of Bristol submitted a Connecticut Department of Transportation (CTDOT) Right-of-Way permit application proposing to do a similar traffic calming measure at the intersection of RT 69 (Wolcott Street) and East Road. The permit has been denied due to crash history at the intersection.

There are approximately 450 residential structures in Bristol between South Street and Wolcott Road, and 35 on Ridge Road and Brier Road. Using a 6 vehicle trips per day per home would correlate to 210 trips for Ridge Road and Brier Road combined, and 2,700 for the residential structures in the entire area. The traffic counts would infer that there is some local bypass traffic using Ridge Road (700 – 210 = 490). There is also guidance within the traffic engineering community stating that the vehicle trip generation for single family homes is 10 vehicle trips per day per home. DPW felt the use of 10 vehicles/home was high and therefore utilized 6 vehicles per day. The use of 10 trips per day would calculated to 350 vehicle for Ridge Road & Brier Road and a number of estimated bypass/ commuter vehicles of 350 vehicles per day.

East Road is currently designated as a Collector Street. Collector streets are defined as "carrying traffic from local streets to arterial roads." A preliminary analysis was performed for Traffic Signal warrants on South Street and East Road using 2021 CTDOT traffic counts. Warrants 1B, 2, 3, 7 were met, while warrant 8 could be utilized. If the traffic queues on East Road are causing delays for drivers during peak hours, then the drivers might be looking for alternative routes that provide less delay. No intersectional movement counts were provided at the intersection to confirm the traffic observations and warrants. Conducting intersection movement counts would provide additional information to determine the level of delay at the East Road intersection.

Ridge Road and Brier Road are both considered local roadways, with a traffic volume of below 1000 vehicles a day.

### Traffic Calming Analysis/Options

**Providing traffic calming measures that address residential concerns and satisfy all effected properties is a challenge, if not an impossible task.** Installing traffic calming measures to modify the current traffic pattern/volume on Ridge Road and Brier Road, if successful, would impact the volume of traffic, (at a minimum in the short term) on a portion of East Road, South Street, and commuter traffic. Traffic Calming is also used to reduce vehicular speeds.

The design of effective traffic calming measures is a function of both engineering and behavior science. Therefore, outcomes are not guaranteed. Prior to permanent installation, DPW recommends that any proposed traffic measures be installed on a temporary basis to confirm effectiveness.



The basis of traffic calming design measures is to make one path less attractive, and/or one path more attractive, to compel commuters to utilize the desired route. In the case of Ridge Road & Brier Road residents, it is my understanding that they desire less traffic on Ridge Road and Brier Road. If DPW is successful in implementing traffic calming measures by installing traffic humps, or closing off Ridge Road/Brier Road at East St, commuters currently traveling on Ridge Road & Brier Road will move to East Road, at least in the short term.

In order to effect a change in traffic pattern, such as desired with traffic calming, DPW does not believe that a traffic calming design can be limited to signage and pavement markings. That is to say, in order to truly change the traffic pattern (driver behavior) on Ridge/Brier Roads, modifications of Ridge/Brier Roads are required. Such measures include the installation of speed humps, roadway curves (chicane), narrowing the road, closing off Ridge/Brier at East Road, or making the road one-way. Traffic calming to decrease traffic on Ridge/Brier Road would also include measures to improve East Road conditions, with measures such as: installing a traffic signal at East Rd and South Street, limiting traffic volumes on East Rd by closing off East Rd at Wolcott Rd, or closing off East Road at Willis St.

Each traffic calming measure has an adverse impact to either the property owners of Ridge/Brier Roads, East St property owners (Brier to South), or commuters, that must be weighed against the current conditions on Ridge/Brier Roads. **As indicated above, effective traffic calming on Ridge/Brier Roads means an increase traffic to other City streets** that would at least initially impact East Road.

Some concerns associated with the various traffic calming measures consist of the following:

1. Speed Humps: Grade of Ridge Road deters the use of speed humps, additional roadway signage required, and increase in noise anticipated. Care must be taken in locating speed humps due to noise from vehicles, and load shifts that can occur in vehicles/trailers. Generally, residents do not want speed humps in front of their home. Concerns from Bristol Police and Fire Depts. with impact to emergency service response time remain, and the Board of Public Works voted at its October 19, 2023 meeting to “To request the Police Board work with Public Works to investigate and implement alternate traffic calming measures on Ridge Road, and to affirm that the Board of Public Works does not support the installation of speed bumps, humps, or tables.”
2. Roadway curves/chicanes: Installation would pose potential safety concerns, and required additional signage due to changes in the roadway geometry.
3. Narrowing roadway: Reconstruction of roadway and relocation of storm drainage. In addition, relatively flat driveways on the west side of Ridge Road may be impacted, and on-street parking would be eliminated. Scope of work can be reduced if road narrowing is limited to Brier Road, however, narrowing the roads to a width of 24 ft. may not reduce traffic volumes.
4. Dead end Brier Road at East Rd: Measure would eliminate all cut-through traffic from East Rd to Ridge/Brier. However, the permanent closure of Briar at East Rd would result in a permanent dead-end length of approximately 1,340 FT. Pursuant to City subdivision regulations, the permanent dead ends/cul-de-sacs are limited to 1,000 Ft. The closure of the Brier Rd at East Rd will reduce traffic on Ridge/Brier Roads by approximately 500 vehicles/day, and increase traffic on East Road (South to Brier) by 500 vehicles/day. Reconstruction of the west end of Brier Rd to provide a hammerhead turn around will require disturbance/regrading of existing landscaping/lawn areas of the properties of 7 & 8 Brier Road and may require a retaining wall due to the cross grade on East Rd. Closing Brier Road could increase emergency response time to Ridge Road. The closing of Brier Road at East Road will pose an initial concern for cut through traffic going south/west to access East Road. Signage at Ridge Road at South Street and Ridge Road and Brier will be required and would necessitate temporary barricades at Ridge Road and Brier Road.
5. Make Brier Road One-Way: Brier Road one-way west could reduce traffic volumes by approximately 250 vehicles on Ridge/Brier Roads, with a corresponding increase on East Road (South St to Brier Rd). Establishing Brier Road as a one-way does pose safety concerns associated with the potential of high-speed collisions (vehicles going the wrong way), and increases the travel path for some residents. The relatively steep grade 8 – 9% on the western end of Brier Road might also make one way traffic difficult during winter conditions.
6. Traffic Signal East Rd/South St: Improve left-turn traffic movements onto South St. However, a traffic signal installed at East Rd & South St could increase northbound traffic on Ridge Road, particularly during off-peak hours, unless a right turn lane could be developed on East Road. The increase in northbound traffic on Ridge Road due to traffic installation of a traffic signal at East Rd & South St could be mitigated by the addition of a right-turn lane on East Road at the South St intersection. Construction of an additional lane would require increasing the pavement width and may require the construction of a retaining wall and real estate taking.
7. East Rd closed at Wolcott St: Road closure would reduce traffic on Ridge/Brier Roads & East Rd., and limit the impact perceived by commuters. The road closure would require a CT DOT permit, which the DOT has indicated would not be approved. The closure would also mitigate the benefits of the Union St/East Rd/Wolcott St intersection project completed in 2004-2005. The impacts to South Street would have to be evaluated with additional vehicle traffic.
8. East Road closure east of Willis St: Effectiveness of closure would be limited due to multiple roadway bypasses, such as Rosemont Ave and Granger Rd. In particular, the closure of East Rd east of Willis St would be a challenge for westbound traffic on East Road.

DPW’s objective is to keep commuter/pass-through vehicle traffic on roads classified as Arterials and Collectors, and off of Local roads. Within the subject study area, DPW’s goal is to have vehicles utilize Wolcott Rd, South St, and Willis St. Based on available traffic data, approximately two-thirds of the vehicles on Brier Rd, and a portion on Ridge Road (Briers to South), 500 vehicles/day are pass-through/commuter vehicles. Addressing Ridge Road/Brier Road residents’ request for traffic calming (reduction in traffic volume) is a function of redirecting all, or a portion of, 500 vehicles/day away from Ridge Road/Brier Road, or determining to keep current conditions “as is,” due to the potential negative impacts of traffic calming options.

To be clear, Ridge Road, Brier Road, and East Road (Brier to South) can support the 500 vehicles/day. The need for traffic calming is NOT driven by roadway design or capacity. Even with 500 vehicles/day of commuter/pass-through traffic, the traffic count on Ridge/Brier Roads is less than 1000 vehicles/day, and still meets the classification of a Local Road. For that matter, East Road would still be classified as a Collector Street, and have sufficient capacity to support 500 additional vehicles/day (additional queuing will occur at the intersection of East Rd & South St during peak times).

As Director of Public Works I understand residents' concerns with traffic on their roadway. However, as Director, I have to weigh the concerns against the impact that implementing traffic calming would have on roadway safety and residential property. Therefore, **DPW DOES NOT recommend implementing permanent traffic calming measures on Ridge Road and Brier Road.** DPW concerns are that chicanes and making Brier Road one-way would pose a safety concern. Narrowing the road and installing a traffic signal at East Road and South St would be ineffective, and making the west end of Brier Road a permanent dead end would violate City Subdivision Regulations and would potentially require work on private property (at 7 & 8 Brier Road). The addition of speed humps also poses safety concerns, and as indicated above, the BPW voted "to request the Police Board work with Public Works to investigate and implement alternate traffic calming measures on Ridge Road, and to affirm that the Board of Public Works does not support the installation of speed bumps, humps, or tables."

I would also state that there are a number of City streets that are subject to cut-through/commuter traffic such as: Collins Road, Boardman Street, John Ave, Missal Ave, Collier Ave, Fanway Ave, Morris Ave, Adeline Ave, Columbus Ave, and Dallas Ave. I understand that the referenced streets are not the focus of the Ridge Road/Brier Road residents, however, DPW does not recommend adopting a policy to install traffic calming on a Local Street with 700 vehicles/day.

As stated within this evaluation, traffic calming is NOT merely an issue of roadway design and traffic capacity, but also a function of driver behavior. **Although DPW does not support a permanent closure of Brer Road at East Road, I would support a temporary closure to see if a 2–3-month closure would change driver behavior to divert away from East Road. It is DPW's opinion that a temporary closure would only be effective if traffic queues at East Road and South St backup sufficiently enough to deter use of East Road.** If East Road traffic volumes are NOT reduced as part of the temporary closure of Brier at East Road, traffic will return to current conditions once Brier Road is reopened.

**Although DPW does not recommend implementing a permanent traffic calming measure, DPW does recommend the following actions:**

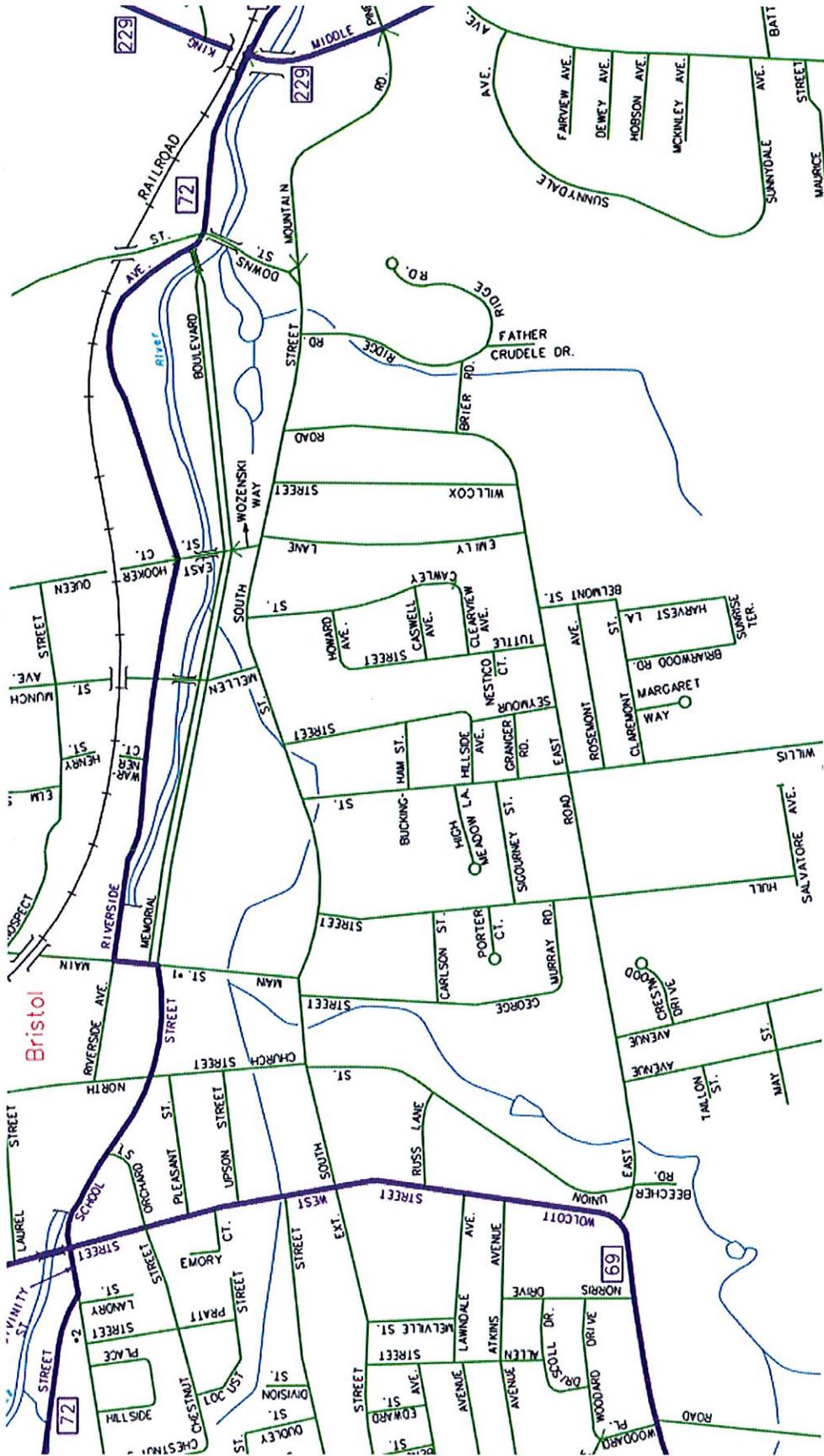
1. Re-mark roadway pavement markings at South St and Ridge Road to eliminate the left turn arrow directing vehicles to Ridge Road
2. Re-mark roadway pavement markings at South St and East Road to shift centerline and establish a left turn lane to East Road.
3. Proceed with a new traffic signal installation at South St/George St/Main St to improve traffic flow on South Street.
4. DPW recommends that NO additional "new" traffic signals be installed on South St. Improving traffic flow on South Street, including radius improvements at South St and Wolcott Road, will reduce by-pass traffic on East Road, Brier Road, & Ridge Road.
5. Cease the project to redesign the East Road/Willis St intersection. The proposed project would eliminate the existing offset intersection. However, offset intersections are a form of traffic calming, and the existing configuration may reduce vehicles crossing East Road at Willis Street, limiting traffic on Ridge Road, Brier Road, and lower East Road.
6. Proceed with the Riverside Ave (CT Route 72) improvements currently under design, and the CT DOT proposed project to re-align CT Route 72 through Bracket Park. Roadway improvements that improve travel time within the City along the east – west corridor decrease the volume of by-pass vehicles.

Please note that DPW's evaluation and recommendations are not based on, or factor in, cost. The recommendation to not install permanent traffic calming measures is based on the evaluation of need (less than 1000 vehicles), and the negative impact to residents (on Brier Road & Ridge Road), along with the risk to safety that some traffic calming measures pose. If the BPW concludes to install permanent traffic calming measures, the installation of some of the measures could potentially be funded within the Department's operations budget. However, traffic calming measures such as: narrowing the road, constructing chicanes, a traffic signal at East Rd/South St, or installing a permanent dead end at Brier Road, would require appropriation from the BOF. In addition, modifications in roadway pavement markings and traffic control signs will require Police Department approval.

The DPW traffic data used in this analysis/evaluation was collected in November of 2023. DPW can reinstall traffic counters coordinated with the Bristol Police Department in the spring and fall to confirm previous information. DPW has provided the Bristol Police Department with this report. Please see attached response along with their previous prepared information.

The Department of Public Works has provided notice to the residents on Ridge Road, Brier Road, & East Road (Brier Rd to South St) to advise them of the Board's January 18, 2024 meeting held at City Hall (111 North Main St) at 6:00 PM. The purpose of providing a direct notice to residents is to receive input from the public.

Please feel free to contact me with any questions/concerns at 860-584-6113.



AREA MAP

# Connecticut Functional Classification Map

Find address or place

Map navigation icons: Home, Previous, Next, Full Screen, Print, Search, Info, Layers, Scale, etc.



## Legend

### Functional Class Active

- Interstate
- Other Freeway and Expressway
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

### Functional Class Codes 1-6

- Interstate
- Other Freeway and Expressway
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

### Functional Class Code 7

- Local

AREA MAP WITH ROAD FUNCTIONAL CLASS

State of Connecticut is collaborating with DelDOT

600ft  
933 41.642 Degrees

## Raymond Rogozinski

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**From:** Patrick Krajewski  
**Sent:** Thursday, January 4, 2024 2:10 PM  
**To:** Raymond Rogozinski  
**Subject:** RE: Ridge Road/ Brier - Traffic Calming (DRAFT)  
**Attachments:** Ridge Road Traffic Study.pdf

I do agree with your findings. I believe that changing South Street, by removing the turn lane onto Ridge Road and moving it would benefit the local road. I also agree that a temporary full closure on Brier to further study and change habits.

I attached my study, where I discuss that we did modify the timing of the traffic lights and extended the green time for South Street. I also discussed the failure of equipment.



*Lieutenant P. Krajewski*

Bristol Police Department  
Traffic Division Commander

Email: [PatrickKrajewski@BristolCT.gov](mailto:PatrickKrajewski@BristolCT.gov)  
Phone: [860 584-3030](tel:8605843030)

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**From:** Raymond Rogozinski  
**Sent:** Thursday, January 4, 2024 10:44 AM  
**To:** Patrick Krajewski <[PatrickKrajewski@bristolct.gov](mailto:PatrickKrajewski@bristolct.gov)>  
**Subject:** Ridge Road/ Brier - Traffic Calming (DRAFT)

For review/ comment



Bristol Police Department  
Traffic Division

(860) 584-3030  
131 North Main Street  
Bristol, Connecticut 06010

TO: DC Moskowitz

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FROM: LT Patrick Krajewski

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DATE: 12/5/23

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Re: Ridge Road traffic study

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Sir,

I was tasked with studying traffic speeds and traffic counts for Ridge Road and Brier Road. Robert Cochran has complained about the speed of traffic on Ridge Road and that Ridge Road was being used as a cut-through to get to and from East Road and South Street.

**Roadway classifications and definitions**

There are three types of functional classifications of roadways, which are; Arterial, Collector and Local.

Functional System	Services Provided
Arterial	Provides the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.
Collector	Provides a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials.
Local	Consists of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.

Functional System	Bristol City Streets
Arterial	South Street and Riverside Avenue
Collector	East Road and Memorial Boulevard
Local	Ridge Road and Brier Road

South Street had a permanent feedback speed sign before it was destroyed in a vehicle crash. The last report was done July, 2019. The report showed that South Street recorded 228,852 vehicles for the month of July, or an average of 7,382 vehicles a day.



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### Traffic light adjustments

I worked with the police department's traffic maintenance technician and we went to every intersection along South Street that is controlled by a traffic light. Each light was checked and green phases adjusted to allow for traffic to travel along South Street in a more efficient manner, as it is the main arterial road in the area. I completed a press release and distributed these changes to the media, City leaders and posted it on our Facebook page to advise City residents of the changes to try and modify driving habits to utilize South Street more frequently instead of Local roadways.

### Traffic reviews, planning and experimentation

Speed signs were deployed and while there is the occasional vehicle traveling fast, reports indicated that 85 percent of traffic was traveling around the 25mph posted speed limit. I spoke with Robert about the sign results and during our conversation, he agreed speed isn't the problem, but the volume of traffic was.

I began reviewing the traffic count from the speed sign, which also counts vehicles. At the end of June, the signs were deployed for one week for northbound traffic on Ridge Road. The sign showed that the average daily traffic count was 742 vehicles in that time frame, which in my opinion is a lot of vehicles for a roadway that is considered a Local roadway.

I met with the Ray Rogozinski, the Director of Public Works and Tony Lorenzetti from the Engineering Department. A plan was developed and Public Works deployed construction barrels, cones and signs that state "Local Traffic Only" as a traffic calming method that would be placed out on Brier Road. The hope was to have northbound traffic remain on East Road and go directly to South Street, which is traffic utilizing the Collector Road to travel directly to the Arterial roadway, staying off of the Local roadway.

After the traffic calming methods were deployed and after some time passed, I would re-deploy the speed signs to count vehicles traveling on both Ridge and Brier roads to see if there was a reduction in traffic utilizing Brier and Ridge roads.



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The State Department of Transportation also conducts their own traffic counts at various times throughout the year and combines their data. This means that they measure counts in both directions and adds the counts together. The below count column represents the average volume per day, also known as Average Daily Traffic Count. These counts were measured 900 feet north of Brier Road.

Combined	Deploy Date Range		Count
	9/7/21	9/8/21	900
	9/22/20	9/23/20	650
	4/16/13	4/17/13	500
	12/2/09	12/3/09	400
	11/16/09	11/17/09	350
	11/29/06	11/30/06	500

Using the State DOT numbers, there is an obvious uptick in traffic counts during the 2020-2021 deployments. It is believed that this increase in traffic occurred when the bridge at the eastern end of Memorial Boulevard needed to be replaced and Memorial Boulevard was shut down from June 2021 to December 2021. This closure resulted in traffic needing to utilize Mountain Road, which changes over to South Street and also Riverside Avenue, which runs parallel with Memorial Boulevard. The roadway closure may have been approximately six months, however, the construction project lasted much longer which did affect traffic after the roadway was reopened. It was not uncommon for Riverside Avenue, King and Middle Streets to have severe backups during rush hour.

After this construction project was complete, the roadway was paved and restriped, now as one lane for eastbound traffic with one bicycle lane and one lane for westbound traffic with one bicycle lane with a dividing median between the two travel lanes. The restriping occurred Fall of 2022.

**Crash reporting on South Street**

I compiled a general search of crashes in the areas of South Street and East Road between the areas of Ridge Road and Union Street broken down by year, a chart is below.

Year	Number of Crashes
2021	42
2022	44
2023	19
<b>Total</b>	<b>105</b>

I utilized the UCONN crash repository, which is a state wide reporting system of crashes that occurred within Connecticut. Below is a heat map generated by the repository for crashes that have occurred on South Street, between Wolcott Street and Mountain Road in the past three years. South Street at East



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**Police Department Speed Feedback sign deployment results**

Below is a graph of the results from June to the beginning of October. The asterisk signifies that the speed sign battery failed and did not collect data for the entire deployment date range. In June, I did not collect southbound data. The count column represents the average volume per day, also known as Average Daily Traffic Count.

Northbound	Deploy Date Range		Count	Southbound	Deploy Date Range		Count
	6/25/23	7/2/23	742		6/25/23	7/2/23	N/A
	8/19/23	8/25/23	519		8/19/23	8/25/23	1,872
	9/27/23	10/3/23	251*		9/27/23	10/3/23	1,048

After the previously placed construction barrels, cones and signs that state "Local Traffic Only" traffic calming methods were removed I conducted another deployment between 10/18/23 – 10/25/23. When I reviewed the report, I noted that southbound traffic had a total traffic count of 18,640 vehicles for the deployment dates, results are below. This number is an increase of approximately 10,000 additional vehicles over the entire deployment. The below count column represents the average volume per day, also known as Average Daily Traffic Count. I could not explain the abnormality and began to question the numbers from the past deployments.

Northbound	Deploy Date Range		Count	Southbound	Deploy Date Range		Count
	10/18/23	10/25/23	401		10/18/23	10/25/23	2,330

I spoke to Tony Lorenzetti about my skewed number results for the most recent deployment and explained that I had other equipment more appropriate for traffic counting, Jamar Black Cat II, but had to order some replacement parts that had failed. Tony explained that he had already reached out to UCONN T2 center who had agreed to assist. They conduct studies using the same or similar equipment as the police department. Their results are below.

The count number represents a total of vehicles over the deployment date, where an average daily traffic count is then generated. It should be noted that the highest traffic day had 683 vehicles recorded, which was on Monday, 11/20/23.

Northbound	Deploy Date Range		Count	Southbound	Deploy Date Range		Count
	11/15/23	11/22/23	1,956		11/15/23	11/22/23	2,050
Average Daily Traffic Count: 572							

I am going to deploy the police department's Jamar Black Cat II units in the coming weeks to validate UCONN's data.



**Bristol Police Department  
Traffic Division**

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131 North Main Street  
Bristol, Connecticut 06010

Road has one of the higher crash rates for all of the South Street intersections. East Road is controlled by a stop sign. A vendor conducted a study of the South Street corridor in 2009. One of the points made during that study was that there was a recommendation for a traffic light to be added to East Road at its intersection with South Street to help with traffic flow through that intersection.



**Enforcement patrols and vehicle stops in the area of South Street**

Utilizing the above mentioned crash data, I compiled a general search of enforcement patrols in the areas of South Street and East Road between the areas of Ridge Road and Union Street. I counted any enforcement patrol that covered any roadway that intersected South Street and East Road. I had to be more generalized, as dispatching call logging varies by dispatcher.

I also compiled another general search of motor vehicle stops on South Street and East Road. I could not be more specific than these two roadways due to limitations of Crime Mapping and the inability to research every marker placed on the map on side roads off of South Street or East Road. The motor vehicle stop numbers reported therefore will be slightly lower than actually reported.

Year	Number of Enforcement Patrols	Motor Vehicle Stops
2021	74	53
2022	59	94
2023	8	87
<b>Total</b>	<b>141</b>	<b>234</b>



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### Comparisons of crash data and enforcement data

Looking specifically at crash data and enforcement data, I was not able to identify any patterns, locations, demographics or roadway configurations where one piece of data affected another data point, in regards to crash or enforcement data.

### Continuing traffic study

I am going to deploy the police department's Jamar Black Cat II units in the coming weeks to validate UCONN's traffic flow data. I will include that data to this existing study. Once complete, I will provide a copy of this information to Tony Lorenzetti, as he is also looking into solutions for the traffic volume on Ridge Road.

It should be noted that this is an evolving traffic study, where I will continue to evaluate the measures put in place, ie; retiming of the traffic lights on South Street and the press release in relation to the retiming of the traffic lights. These updates will be documented under addendums to this study and NEXGEN will be updated.

Thank you,

A handwritten signature in black ink, appearing to read "Patrick Krajewski". The signature is stylized and written over a horizontal line.

Lieutenant Patrick Krajewski  
Traffic Commander



Bristol Police Department  
Traffic Division

(860) 584-3030  
131 North Main Street  
Bristol, Connecticut 06010

TO: Press

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FROM: LT Patrick Krajewski

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DATE: 10/31/23

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Re: South Street traffic light improvements

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The Bristol Police Department has been working to improve traffic conditions for South Street from Wolcott Street (CT route 69) to Mountain Road, which intersects with Middle Street (CT route 229).

These changes consist of adjusting the timing of every traffic light on South Street, increasing green lights on South Street so traffic can travel to/from both major state routes in an expedited manner with less red light times. These efforts have been done to try and eliminate the need for travelers to utilize other collector roadways or smaller local roadways, such as East Road and Ridge Road, trying to avoid South Street traffic.

It is believed that the adjusted traffic lights will help with a greater amount of traffic on South Street, eliminating the need to use other roadways to get to CT route 69 or CT route 229.

Please try and utilize the adjusted South Street corridor in your travels between CT route 69 and CT route 229.

Thank you,

Lieutenant Patrick Krajewski  
Traffic Commander



## **BRISTOL POLICE DEPARTMENT**

131 North Main Street  
Bristol, CT. 06010

September 22, 2023

Dear Mayor Caggiano and Board of Public Works Members,

At the Regular Board of Police Commissioners Meeting held on September 20, 2023, the following motion was unanimously passed:

*“REFER TO THE BOARD OF PUBLIC WORKS THE PETITION FOR SPEED BUMPS ON RIDGE ROAD AND MAKE A RECOMMENDATION AND REFER BACK TO THE POLICE DEPARTMENT”.*

Sincerely,

A handwritten signature in black ink, appearing to read "B. Gould", is written over the word "Sincerely,".

Brian Gould  
Interim Chief of Police