



Does your community have a TRAFFIC CALMING POLICY?

“Cars fly down this road at double the speed limit! Someone is going to get hurt if you don’t install a stop sign!”

Is this a common phone call you receive? Has your community considered adopting a traffic calming policy to objectively and systematically handle these concerns?

WHAT IS A TRAFFIC CALMING POLICY? A traffic calming policy is an engineering based document that:

- Educates the public on the use of traffic control devices and traffic calming measures;
- Establishes criteria for when and what type of traffic calming is appropriate depending on roadway type and function; and
- Contains a systematic plan for residents to make formal requests to have a traffic study completed, which warrants (or doesn't) appropriate traffic calming measures be installed.

HOW DOES THE PROCESS WORK? The process generally works like this:

1. A speeding/traffic complaint is made.
2. Resident is directed to the municipality's traffic control policy website, where resident is educated on traffic calming measures (and dispels myths like

stop signs effectively calm traffic), and what criteria need to be met in order for a traffic study to be undertaken.

3. Citizen completes a form requesting a traffic study.
4. At staff discretion, municipality completes a traffic study which typically consists of reviewing accident data and collecting speed and traffic counts.
5. Staff analyzes the data against its traffic calming policy, and determines whether the traffic calming threshold has been met. The analysis can be completed in different ways, but a popular method is a minimum scoring threshold based on speed, traffic volume, crashes, crossings, sidewalks, and others.

6. If the threshold has been met, staff determines the most appropriate traffic calming measure to be installed. If there are multiple options that can be effective, staff can reach out to stakeholders for their input. In some cases, multiple traffic calming options are installed on a temporary basis to measure the effectiveness of each.

Q1 2019

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DRONES IN ACTION

Technological advances, increased ease of use, lower costs, and improved overall functionality have turned drones into valuable tools.

Drones can collect a wide variety of useful imagery for varying applications. They can take photos to help monitor project progress, collect ortho-imagery (for mapping), and conduct inspection work. Drones are capable of creating 3D data sets (LIDAR, Point Clouds, etc.) for use in volume measurements, planimetrics, and modeling. Some drones have Forward Looking Infrared (FLIR) available. FLIR can be used for many applications from construction project photos to bridge and utility inspections.

Through the use of pre-programmable flight plans, drones can be configured to fly the same path again and again. Repeat flights offer the opportunity to capture the exact same data set repeatedly over a period of time. As a result, the data can be compared over time to reveal change.

DRONES ARE IDEAL FOR...

- Traffic Analysis
- Hard-to-Access Areas such as: Bridge Inspection, Water Tower Inspection, Facilities (Roofs) Inspection
- Site-Specific Aerial Mapping
- Environmental Data Collection
- High Resolution Images and Video
- 3D Data Collection
- Thermal Imagery
- Utility Corridor Survey

HOW CAN A DRONE ASSIST MY ORGANIZATION?

- Collect data quickly and cost efficiently
- Capture aerial imagery, High Resolution Photos
- Monitor project progress
- Proactively identify potential issues such as algae blooms, invasive species, etc.
- Mitigate safety risks and reduce workers' exposure in high risk environments

No Name Key, Florida

BRIDGE INSPECTION

No Name Key is an island community located in the lower Keys which connects to Big Pine Key by a concrete bridge. The Florida Keys Aqueduct Authority (FKAA) supplies potable water to island residents while providing reclaimed water and wastewater services. The FKAA installed 2,000 feet of 2-inch stainless steel force main pipe to transport wastewater from No Name Key to a local treatment facility. After construction, the newly installed pipe needed to be inspected; however, the pipe's inaccessible location beneath the bridge deck required an innovative solution. FKAA hired Baxter & Woodman to perform a drone inspection. The drone video and photographs identified several locations which were deficient and needed to be corrected by the contractor. Baxter & Woodman provided two drone flight inspections to verify the corrective work done by the contractor was completed satisfactorily.



Drone video of bridge piping inspection, part 2: <https://bit.ly/2ynjRQS>

DRONES IN ACTION

Village of South Elgin, Illinois

MCDONALD ROAD BRIDGE OVER OTTER CREEK

Throughout construction Baxter & Woodman used drone technology to capture both data and imagery. The collected information was used to keep stakeholders informed, monitor change over time, and capture an archival record of construction progress at various stages of the project.

 **YouTube** Drone Video: McDonald Road Bridge over Otter Creek: <https://bit.ly/2D0ArcX>



City of Waukegan, Illinois

GENESEE BRIDGE INSPECTION

The size, location, and design of the bridge made it difficult for a traditional inspection. Drone inspection was a more cost effective and safer approach.

 **YouTube** Drone Video: Genesee Bridge Inspection: <https://bit.ly/2sejZQa>



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TRAFFIC CALMING

7. The preferred traffic calming device is chosen and the municipality determines when and how it will be installed.

8. The municipality follows up after installation to measure prevailing speeds and traffic counts, and compares that information to data collected before traffic calming was implemented to measure its effectiveness. Post installation data vs. pre-installation data is tracked so it can be used to make future traffic calming decisions.

Example: Project Point Assignment - Local Streets		
Criteria	Points	Basis
Speed (85th percentile)	0 to 40	10 Pts for every 5 mph over posted speed limit
Volume	0 to 40	ADT divided by 100
No Sidewalks	0 to 5	If no continuous sidewalk then 5pts. If there are signs of heavy pedestrian traffic w/out sidewalks 10 pts
Traffic Crashes	0 or 51	Pt for each crash/year at one location
School Crossing	0 or 55	Pts if children must cross street to get to school
Total Points Possible	100	

HOW DO I START? There are plenty of well thought out traffic calming policies for public viewing. Find a policy that works for your community and put it in place to save time for your staff and to provide your residents an objective strategy to address their traffic and/or speeding concerns.

Please contact Jason Fluhr, PE, PTOE™ at jfluhr@baxterwoodman.com to discuss the best way for your community to implement a traffic calming policy.



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LOOKING FOR A PROJECT FUNDING MECHANISM THAT GUARANTEES RESULTS? TRY

PERFORMANCE CONTRACTING

A performance contract is a project delivery method to fund capital improvements with operational savings. Money saved as a result of new, efficient technology is used to offset the cost of financing, installing, and operating the improvements.

HOW DOES A PERFORMANCE CONTRACT WORK?

A contract is created between an organization and an Energy Service Company (ESCO) based on guaranteed project savings and backed by the ESCO.

WHAT ARE THE KEY COMPONENTS?

Project Funding: An ESCO may fund the initial study and preliminary design, providing an economically viable alternative

to traditional project funding.

Selection Flexibility: Selecting the best value with a track record of performance, not low bid.

Guaranteed Results: An ESCO guarantees the projected savings and agrees to pay any difference between projected and actual savings if the savings fall short.

Long Term Project Monitoring: Measures and validates projected energy savings throughout the project life cycle.

WHY CONSIDER PERFORMANCE CONTRACTING?

A Performance Contract is a tool for

achieving infrastructure modernization, budget reduction, efficiency, and sustainability goals without the need for large upfront capital expenditure. B&W teams with ESCOs to provide technical expertise for infrastructure projects.

WHAT PROJECTS MIGHT BE A GOOD FIT FOR PERFORMANCE CONTRACTING?

- System-wide water meter replacement
- Water storage and pumping optimization
- Wastewater aeration and digester gas utilization improvements
- SCADA upgrades and modernization
- Street lighting improvements
- Building HVAC improvements