

TRAFFIC CALMING PROGRAM MANUAL



November 14, 2023

WHAT IS TRAFFIC CALMING?

“The primary purpose of traffic calming is to support the livability and vitality of residential and commercial areas through improvements in non-motorist safety, mobility, and comfort. These objectives are typically achieved by reducing vehicle speeds or volumes on a single street or a street network. Traffic calming reduces automobile speeds or volumes, mainly through the use of physical measures, to improve the quality of life in both residential and commercial areas and increase the safety and comfort of walking and bicycling.” - FHWA/ITE

WHAT IS THE PURPOSE OF THIS PROGRAM?

Speeding and unsafe driving habits are a major concern throughout the United States. The City of Gunnison is no exception with the community expressing similar concerns. In direct support of the City's Strategic Plan and Comprehensive Plan, this Traffic Calming Program Manual is intended **to provide a clear and systematic process for how to address a variety of traffic concerns and improve safety**. This is not a “study” or a “plan” that reflects solutions at specific locations. Instead, this program manual represents a decision framework that defines the agreed upon **types of solutions, technical resources, and clear responsibilities**. Additionally, it provides an application process for enhancing neighborhood safety.

WHAT ARE THE OBJECTIVES OF THE PROGRAM?

1. **Process**: keep it simple
2. **Application**: scalable – not everything is complex
3. **Methods**: proven, effective, and practical
4. **Users**: value all modes of transportation
5. **Costs**: reasonable and responsible

WHAT WE KNOW ABOUT SPEED:

The risk of higher speeds is undisputed. The speed at which a motorist travels on a given section of road is based on many factors. The motorist must take into consideration vehicle capability, roadway features, environmental conditions, surrounding context, presence of other road users, and most importantly, the speed limit.



WHAT WE KNOW ABOUT OTHER HAZARDS:

Speed is just one element contributing to multimodal safety. Other common hazards include limited visibility, improper use or application of traffic control devices or signage, roadway design and condition, user behavior, volume of users, lighting, and weather conditions.

HOW DO WE EFFECTIVELY IMPROVE SAFETY?

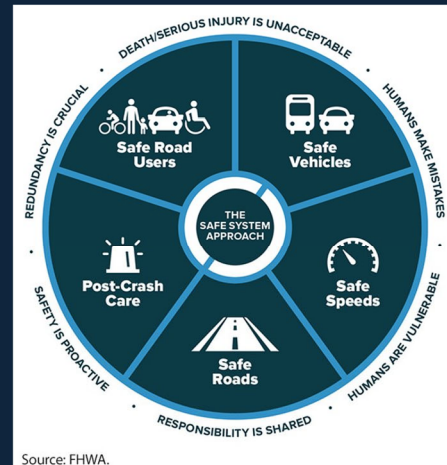
The City of Gunnison is committed to a “Safe System” approach, which was founded on the principles that humans make mistakes and that human bodies have limited ability to tolerate crash impacts. In a Safe System, those mistakes should never lead to death.

A Safe System Approach : FHWA

The Safe System Approach is a data-driven, holistic, and equitable method to roadway safety that fully integrates the needs of all users, anticipates the possibility of errors by drivers and other road users, and manages crash impact forces to levels tolerated by the human body.

5 Elements

1. Road Users
2. Vehicles on the Roads
3. Speeds of the Roads
4. Safe Roads
5. Post-Crash Care (EMS)



We can't control the weather and our ability to control human behavior is limited.

We can control the three “E’s” – Engineering, Education, and Enforcement. This program primarily focuses on the physical aspects of our transportation system – the “Engineering.” This focus is not intended to minimize the value of education and enforcement, nor does it replace those efforts. Instead, this program works to resolve the root of the problem.

PILLARS OF TRAFFIC SAFETY (3E'S)

Engineering

Generally, the most expensive but greatest affect.

Education

Generally, the least expensive and least effective.

Enforcement

Widely accepted as not cost effective or effective to roadway users. Results are intermittent at best.

Approach developed by National Safety Council around 1925.

TYPES OF CONTROL MEASURES

Traffic calming involves trade-offs; finding a balance between the need to provide an efficient transportation network and maintaining a livable and safe environment for bicyclists, pedestrians, and other street or street-adjacent users.

The challenge of traffic calming is selecting the appropriate measures and locations to reach that balance.

- Volume control measures: consist of modifications that reduce the quantity of vehicles that use a specific roadway.
- Vertical speed control measures: are elevated segments of roadway and gateway/landscape treatments, which require vehicles to slow down.
- Horizontal speed control measures: alter the typical straight line traveled way or narrow a specific roadway to reduce speed.

This program hereby incorporates the FHWA Traffic Calming ePrimer as a primary resource for the traffic calming program. Module 3 of this ePrimer provides a well-defined “Toolbox” of possible measures.

See Appendix A.

WHY CAN'T WE JUST ADD STOP SIGNS?

Stop signs are designed to control traffic flow at intersections, not speed. Stop signs may slow traffic near the stop sign. However, speeds between stop signs tend to be elevated as drivers try to “make up time.” And, worse yet, some drivers tend to ignore unnecessary stop signs, creating an increased safety risk.

There is no evidence to indicate that stop signs decrease the overall speed of traffic. The State of Colorado and the City of Gunnison have formally adopted the application of the Manual of Uniform Traffic Control Devices (MUTCD). This standard is used across the nation and provides consistency and predictability for users. The MUTCD defines conditions that “warrant” the use of stop signs. Unwarranted stop signs breed contempt in motorists who tend to ignore them or only slow down without stopping. This can sometimes lead to tragic consequences.

See Appendix B - “Intersection Safety: Myth Versus Reality”

WHO DETERMINES THE “RIGHT” TOOL?

Law enforcement and the community provide essential information needed to define the problem. Anyone is qualified to report observed behaviors and other hazards. That said, transportation is a profession requiring certain education, training, and experience. To determine the “right tool for the job” the situation requires evaluation and a decision by a qualified and licensed professional engineer.

The state licensing board prohibits individuals from practicing engineering that are not professionally licensed. The standards adopted by the City require that transportation decisions be based upon “professional engineering judgement.” This requirement does not preclude common-sense solutions and it does not require that a comprehensive study be conducted for every situation. However, it does provide clear direction on who has the sole legal authority to make transportation decisions. The City Engineer is primarily responsible for transportation decisions and may hire external engineers to assist depending upon the complexity of the situation. The City Manager, Police Chief, Council, and others on staff are not qualified unless licensed.

Traffic calming "measures" are the individual traffic calming elements that are implemented on a roadway. The term traffic calming "devices" or "features" is sometimes also used in practice.

Toolbox is a term commonly associated with traffic calming, used to describe the traffic calming measures that are available for use when developing traffic calming solutions.

HOW DOES AN ENGINEER MAKE A DETERMINATION?

The following national entities dedicate a tremendous amount of time and resources to researching and identifying ways to improve safety for all users on our roadway systems – just to name a few:

- American Association of State Highway and Transportation Officials
- Federal Highway Administration
- Road to Zero Coalition
- National Safety Council, US Department of Transportation
- Insurance Institute for Highway Safety
- National Highway Traffic Safety Administration
- National Transportation Safety Board
- Governors Highway Safety Association
- International Traffic Safety Data and Analysis Group
- Institute of Transportation Engineers
- AAA Foundation for Traffic Safety

Engineers use this research and the associated guidance when evaluating conditions and possible solutions. Making a decision requires understanding the facts and knowing how and what standards apply to the situation. Ultimately, engineering is a discipline dedicated to problem solving. No two problems are the same.

See Appendix C.1 – Engineering Decision Framework

HOW DOES THE PUBLIC COMMUNICATE A CONCERN?

The information garnered by the public is essential and will include how the community perceives the problems or issues, how the community perceives the effects of potential solutions, and ultimately how the community perceives a recommended program of actions.

This Program identifies a framework for the public to communicate a concern and receive a response on if, how, and when a resolution to their concern will be implemented. The City's response shall be in writing and include a basis for the decision and a detail of next steps. The "Public Process" framework is applicable regardless of the type of traffic safety concern and serves as a system for how the City receives the request, reviews it (see Engineering Decision Framework), and responds to ensure that such concerns have an easy method for communicating with the right staff member and receiving a response.

To this end, regardless of the type of concern or request, all inquiries are submitted through a simple platform that collects the individual's name, contact information, and a summary of the concern or inquiry. Most requests are considered "spot locations" and additional information is typically not needed. Alternatively, if after reviewing the initial concern, the City may determine that the matter is more applicable to the "Neighborhood Traffic Calming" process (see Appendix D) and will inform the citizen of any additional information required to process the request.

In addition to direct communication with the initiator of the concern/request, all concerns and responses are documented and available to the public on the City's website.

See Appendix C.2 – Public Process

APPENDIX A

The “Traffic Calming ePrimer” is hereby incorporated as the primary basis for the City’s Traffic Calming Program. The Traffic Calming ePrimer is an online resource openly available for public use, published by the Federal Highway Administration.

The ePrimer presents a thorough review of current traffic calming practices and contains the information needed to understand this complex field. The ePrimer is presented in eight distinct modules.

<https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer>

See Module 3 for a Toolbox of Solutions

APPENDIX B

Myth vs Reality

Intersection Safety: Myth Versus Reality

Published by **FHWA / ITE**

Intersection Safety: Myth Versus Reality

Traffic engineering decisions about intersection safety are often the product of factors and relationships that are more complex than the casual observer may realize. In many cases, evaluating potential solutions to crash or violation problems may reveal aspects of intersection safety and efficiency that are in conflict with one another. In reality, traffic engineers must always consider a balance between managing safety and improving intersection operations before making their final choice for intersection control.

Over the years, a number of misconceptions about traffic-control solutions have become apparent. This briefing sheet attempts to shed some light on the rationale for why certain traffic-control decisions are appropriate and required.

The driving public has developed a number of misconceptions about traffic control solutions over the years. This brief attempts to expose some of those myths and shed light on the rationale behind certain traffic control decisions.

Myth 1: Installing signals always makes intersections safer.

Reality:

The installation of unwarranted signals, or signals that operate improperly, can create situations where overall intersection congestion is increased, which in turn can create aggressive driving behavior.

When more complex signal phasing causes longer waiting times at intersections, both drivers and pedestrians tend to become impatient and violate red lights, or drivers are tempted to cut through neighborhood streets. This subjects local residents to a greater risk of collisions, worse congestion and more air and noise pollution.

Clearly traffic diversion to side streets is an undesirable side effect of long cycle lengths and congestion. This diverted traffic may increase risk on the side streets, but the cause of this increased safety risk should not be attributed to the new signal.

Additional traffic safety measures are sometimes necessary to offset increased traffic and speeding through neighborhood streets. One way of improving waiting times at an intersection with a new signal is to make sure the minor street waiting times are less than they were before installation of the signal. This improvement will encourage motorists to use signals on main roads instead of neighborhood streets.

On occasion, other traffic control options, such as stop control or the introduction of roundabouts can perform as well as, or even better than, signals in managing both vehicle and pedestrian traffic safety at intersections. This is particularly true when signals are inappropriately placed at locations where traffic volume is relatively low. Intersections with signals that have very low traffic volumes tend to tempt drivers and pedestrians to violate that red light.

Myth 2: Having a stop sign is always better than no stop sign, OR, more stop signs are always safer than fewer stop signs.

Reality:

Unwarranted stop signs create problems at both the intersection and along the roadway by:

- Encouraging motorists to drive faster between intersections in order to save time. Placing stop signs on every low-volume local street promotes speeding between the stop signs as drivers try to offset the delays caused by stopping at every intersection;
- Encouraging violation of traffic laws. As the number of stop signs increase so that nearly every intersection has one, the rate of stop sign violations tends to increase;
- Encouraging the use of alternate routes. Placing too many stop signs in some areas



often causes traffic to use other neighborhood routes to avoid a sequence of intersections that may be controlled by stop signs; and

- Increasing the chance that drivers will disregard conflicting vehicle and pedestrian traffic, which raises the risk of collisions.



There is no evidence to indicate that stop signs decrease the overall speed of traffic. Impatient drivers view the additional delay caused by unwarranted stop signs as “lost time” to be made up by driving at higher speeds between stop signs.

Unwarranted stop signs breed contempt in motorists who tend to ignore them or only slow down without stopping. This can sometimes lead to tragic consequences.

Stop signs should never be installed as a routine, cure-all approach to curtail speeding, prevent collisions at intersections, or discourage traffic from entering a neighborhood. Stop signs should be installed only after an engineering study determines that there is a need. Stop signs are not a solution to intersection safety problems caused by poor sight distances and deficient road design.

Myth 3: Installing stop signs on all approaches (four-way stop) to an intersection will always result in fewer accidents.

Reality:

Four-way stop signs do not necessarily improve pedestrian or vehicle safety. In fact, pedestrians in stop sign-congested neighborhoods often have a false sense of security about crossing local streets

with four-way stop signs. The application of traffic control devices, to the casual observer, often creates this sense of security, but in reality may actually increase safety risk. If control devices are improperly applied, they can create confusion between the pedestrians and the driver as to who has the right-of-way, thereby increasing the risk that one of the two will make an improper decision resulting in serious consequences.

Placing four-way stop signs on roads of very unequal design, speed and traffic volume will tend to promote stop-sign violations by drivers, especially on main roads. Driver expectancies are violated in situations like this and when this occurs, improper actions result which can increase safety risk at intersections.

Placing four-way stop signs at every intersection where there were formerly only two-way stop signs also usually increases congestion. Four-way stop signs should only be considered after an engineering study and a capacity analysis are performed.

Generally, every State requires the installation of traffic control devices, including stop signs, to meet State standards of the department of transportation.

The State standards are based on the *Manual on Uniform Traffic Control Devices* (MUTCD). The MUTCD is the national standard for traffic control devices. It prescribes standards for the design, location, use and operation of traffic control devices. The MUTCD is located at the following Web site: <http://mutcd.fhwa.dot.gov>.

Myth 4: Signals are always better than stop signs.

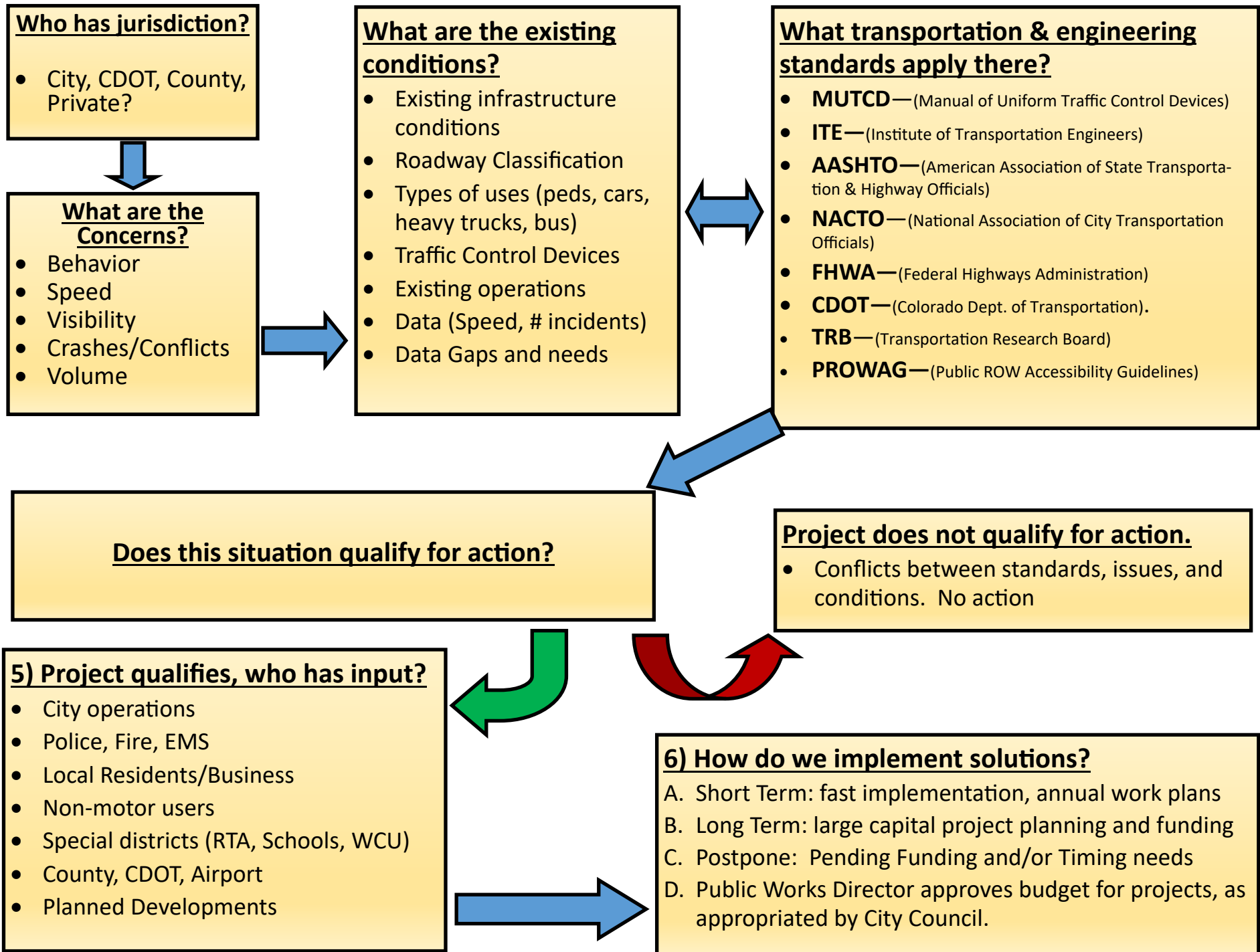
Reality:

Installing stop signs instead of signals when there is no intersection traffic control, increasing the size or visibility of existing stop signs, or placing them in a better location often increases both vehicle and pedestrian safety without the initial expense and later maintenance costs of signals. While waiting for signals to qualify for installation, the substantial amount of money saved can be used to make roads safer.

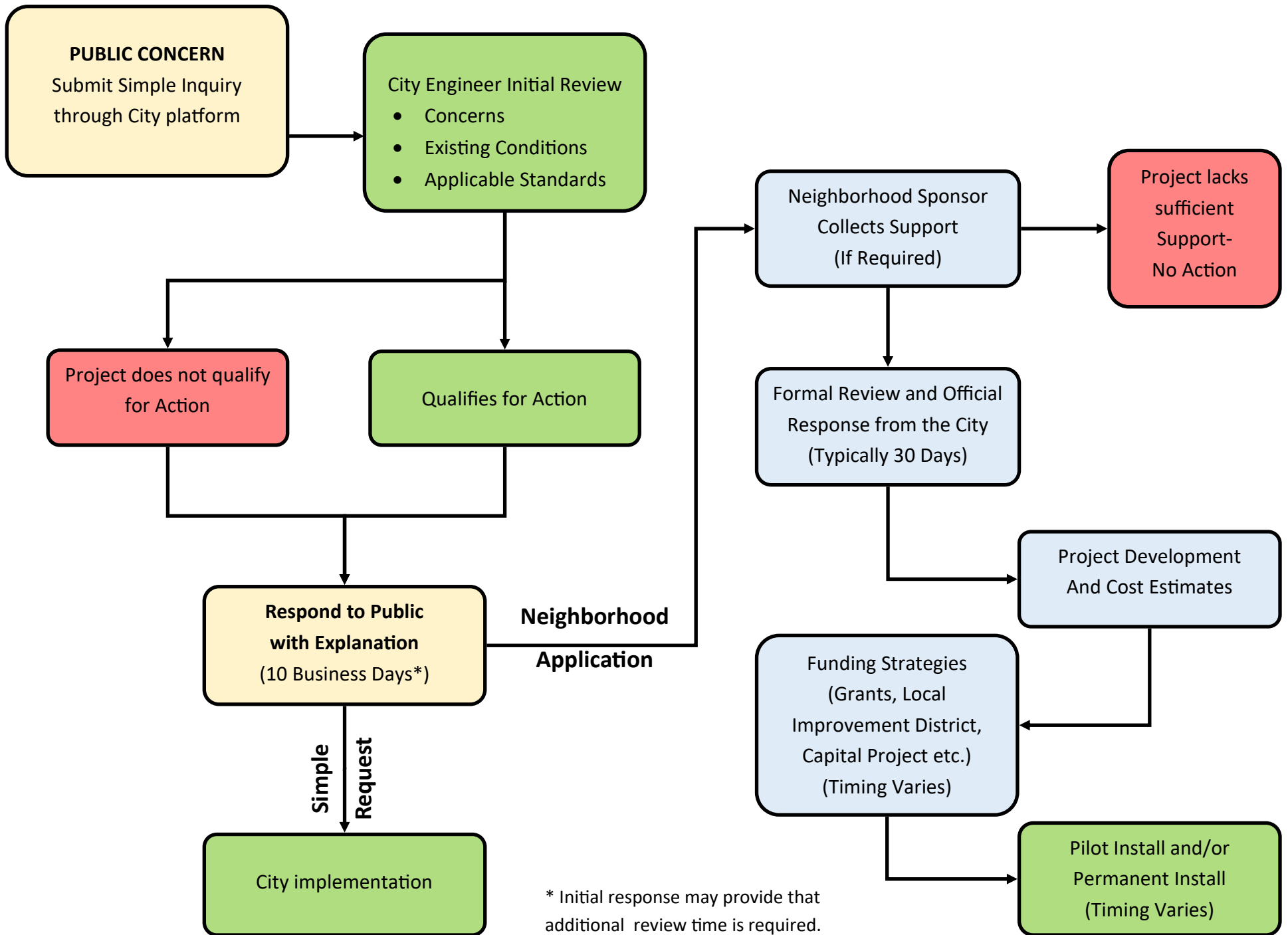
APPENDIX C

- 1.Engineering Decision Framework**
- 2.Public Process Framework**

CITY OF GUNNISON: TRAFFIC SAFETY—ENGINEERING DECISION FRAMEWORK



Traffic Calming Program—Public Process



APPENDIX D

Neighborhood Traffic Calming Application



Traffic Calming Program

About the Program

The City of Gunnison's Neighborhood Traffic Calming Program aims to reduce speeding and cut-through traffic on residential streets and improve the quality of life in neighborhoods using a set of traffic calming strategies.

Strategies range from enforcement and educational actions to a more comprehensive physical infrastructure approach.

Traffic calming tools include automated speed radar signs, curb extensions/neckdowns, speed cushions, mini roundabouts and full intersection closures and are applied based on type of roadway and land use context and specific project need.

The primary focus of the program is to verify eligible projects that are well supported by the community and that properly address identified safety criteria.

Applying

The City of Gunnison is accepting applications for residents wishing to participate in the Neighborhood Traffic Calming Program and assist in slowing neighborhood traffic and increasing safety. *Guidelines include:*

- Neighborhoods may submit one application per year.
- Eligibility is determined by confirming the problem location meets identified speed and volume thresholds.

- A minimum of 3 sponsors are required per request and may include a neighborhood resident, Registered Neighborhood Organization or Homeowners Association.
- Applicants must build support among residents, property owners, and business owners within the identified project area.

The step-by-step guide below outlines the Neighborhood Traffic Calming Program eligibility requirements and the procedure for neighborhoods seeking to implement traffic calming along local and collector street types.

Identified roles by City Departments and community applications are described herein.

Application

Project Development and Implementation

1

Neighborhood applies for traffic control program using City Application Form

2

City of Gunnison Public Works Staff (PW) reviews project location and determines eligibility of improvements. PW develops Overall Study Area & standard background information

3

PW staff responds to applicant(s) to discussing preliminary findings, study area, and eligibility, within 30 days. If eligible neighborhood sponsor(s) coordinate public outreach to formalize support and increase awareness of the program.

4

Applicant provides recorded support to City from neighborhood owners, businesses and other local agencies within the identified Study Area. Permanent vs. trail installations are evaluated for final eligibility determination.

5

If eligible, within 30 days PW staff begins process to collect additional data needed to evaluate traffic calming concerns and goals in the Project Area. PW begins data collection as conditions and procurement allow

6

Summary of Findings and Recommendations (SOFR) provided by City Engineer within 3 months, as conditions allow. SOFR includes decision to proceed or not proceed to project.

7

PW staff, along with other City and stakeholders, develop conceptual design plans for the identified problems using acceptable traffic calming methods.

8

PW reviews comments and develops cost estimate(s) for final design and construction of permanent or trial traffic calming projects.

9

Traffic calming prioritization of projects based on crash history, traffic patterns (existing & proposed), and duration (trial or permanent).

10

Funding strategies for City budget, CIP projects, grants and other forms of funding to be developed and applied for annually with City staff, following the PW traffic calming priority project list.

11

Implementation. City construction of trial or permanent traffic calming projects as funding allows. PW staff updates traffic calming project priority continually to keep new and old priority projects moving forward

12

PW staff evaluate the effectiveness of a project upon implementation and monitor to address needed changes. Make recommendations on trial projects as potential permanent projects after evaluations periods.

Application Form

Neighborhood Traffic Calming Program



The City of Gunnison Public Works Department is accepting applications for residents wishing to participate in the Neighborhood Traffic Calming Program. Application should be submitted by communities with support from a minimum of 3 sponsors which may include neighborhood residents, Registered Neighborhood Organizations or Homeowners Associations. Please complete the following application and return to cityclerk@gunnisonco.gov. **Questions? Contact Public Works at 970-641-8020.**

Contact Information

Applicant Name: _____
 Email: _____
 Phone number: _____
 Mailing Address: _____
 Zip Code: _____

Sponsor Names/Organizations (minimum of 3 required and may include neighborhood residents, Registered Neighborhood Organizations or Homeowners Associations):

Problem Location

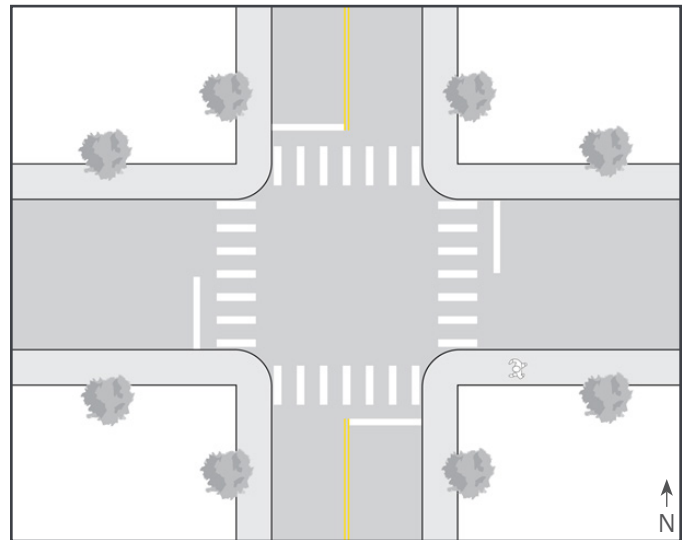
Please list the exact location of concern within your neighborhood. The location should primarily be a residential street address or intersection. To assist, you may provide a simple map identifying the location boundary and any nearby schools, parks, community centers, churches, hospitals, police stations, transit stops or stations and firehouses.

Note: the Neighborhood Traffic Calming program is intended for streets classified as "Local" and "Collector," and applications for "Arterial" streets will not be considered for this program.

See <https://www.gunnisonco.gov/streets> then "Click Here for PDF Maps." Street classifications can be found within the "Gunnison Streets Map.pdf."

Intersection/Street: _____

If helpful, intersection and midblock diagrams are provided below for your convenience.



Issue/Concern

Please describe your issues and concerns and be specific, if possible, regarding times of day and days of week. These may include speeding, cut through traffic, difficulty crossing the street, drivers not yielding to pedestrians, drivers not obeying traffic control devices, etc...

Issue/Concern:

Time of Issue/Concern (day of week and time of day):

