CITY OF KETCHUM, IDAHO
KETCHUM TRAFFIC AUTHORITY
Thursday, February 15, 2024, 9:00 AM
191 5th Street West, Ketchum, Idaho 83340

AGENDA

PUBLIC PARTICIPATION INFORMATION
Public information on this meeting is posted outside City Hall

We welcome you to watch Traffic Authority Meetings via live stream.
You will find this option on our website at www.ketchumidaho.org/meetings.

If you would like to comment on an agenda item, please select the best option for your participation:

- Join us via Zoom *(please mute your device until called upon)*.
  Join the Webinar: https://ketchumidaho-org.zoom.us/j/81588451667
  Webinar ID: 815 8845 1667
- Address the Traffic Authority Group in person at City Hall.
- Submit your comments in writing at participate@ketchumidaho.org *(by noon three days prior to the meeting).*

This agenda is subject to revisions. All revisions will be underlined.

CALL TO ORDER: by City Administrator Jade Riley
Pursuant to Idaho Code Section 74-204(4), all agenda items are action items, and a vote may be taken on these items.

ACTION ITEMS:

1. Adoption of October 19, 2023 meeting minutes
2. Joni Cashman's request for a stop sign at the intersection of 2nd Avenue and Sun Valley Road due to safety concerns for Pioneer Montessori students trying to cross Sun Valley Road
3. Next steps on West Ketchum traffic calming

ADJOURNMENT:

CITY OF KETCHUM
MEETING MINUTES OF THE TRAFFIC AUTHORITY
Thursday, October 19, 2023
191 5th Street West, Ketchum, Idaho 83340

CALL TO ORDER: *(00:00:25 in video)*
Ketchum Traffic Authority Chairperson Jade Riley called the meeting to order at 9:10AM

PRESENT:
Jade Riley, Ketchum Traffic Authority Chairperson
Seth Martin, Assistant Chief/Fire Marshall
Morgan Landers, Director of Planning & Building
Michael David, City Councilmember
Wes Whitesell, Community Service Officer
Sara Weaver, Community Service Officer
Trent Donat, City Clerk & Business Manager
Kelli Trapp, Recording Secretary
Jim Figge, Sun Valley Associates
Jed Gray, Sun Valley Associates
Thomas Monge, Sun Valley Associates
Jason Buck, Sun Valley Associates
Terry Palmer, Sun Valley Associates
Jonah Kendall, St. Thomas Episcopal Church
Sara Gorby, St. Thomas Episcopal Church
Brett Moellenberg, St. Thomas Episcopal Church

Group Members not in attendance:
Jamie Shaw, Ketchum Chief of Police

ACTION ITEMS

1. **Adoption of Minutes**
   Motion to approve minutes of July 20, 2023
   MOVER: Brian Christiansen
   SECONDER: Jamie Shaw
   All in favor, motion carried *(00:01:04 in video)*

2. **Appointment by adoption of a motion naming Ramsy Hoehn, Ketchum Street Superintendent, as a Group Member of the Ketchum Traffic Authority**
   MOTION:
   Motion to approve the appointment of Ramsy Hoehn, Ketchum Street Superintendent, as a Ketchum Traffic Authority Group member as outlined by City Code
   MOVER: Seth Martin
   SECONDER: Morgan Landers
   All in favor, motion carried *(00:01:30 in video)*

3. **Discussion on the new stop sign at Spruce and Sun Valley Road, particularly the parking lot shared by Sun Valley Associates and St. Thomas Episcopal Church**
   Members of the public from Sun Valley Associates and St. Thomas Episcopal Church appeared before the Group and spoke on this item. Ramsy Hoehn, Street Department Superintendent stated that he would like to see more hard data and public outreach prior to making any changes. Michael David suggested speaking to Mountain Rides on this issue. More data is needed before making a final decision. *(00:42:50 in video)*

4. **Matt Paxton's complaint on the increase of traffic on Saddle Road**
   The Group discussed the construction activity going on at this time being relative to the amount of construction traffic in the area of Saddle Road. They also discussed the classification of Saddle Road. *(00:49:19 in video)*

5. **Ben Verge's request for a Slow Children at Plan sign and a speed limit sign on Georginia near the bottom of the hill**
   The Group discussed this item and concluded that signs put up by residents are more effective at reducing speed than City signs. Kelli will reach out to Mr. Verge and let him know that he is welcome to put up his own Slow Children at Play sign as long as it is removed in the wintertime. *(00:55:44 in video)*

6. **Terry Chester's request for a crosswalk at the intersection of Saddle Road and Valleywood**
   The Group discussed this item and will have the City's Senior Project Manager Ben Whipple and the City's Traffic Engineer review this matter. *(01:04:46 in video)*

7. **Monique Heatly's list of requests emailed to Jamie Shaw for the safety of children walking to Hemingway School**
   Someone will reach out to both the Principal of Hemingway School for more feedback and the Safe Routes to School coordinator and get back with Monique Heatly on this item. *(01:15:11 in video)*

8. **Debrief and next steps on West Ketchum Traffic Calming Project**
   The results of the online project survey will be published online. A formal neighborhood open house will be scheduled to get more dialogue and comments from residents. Ramsy Hoehn stated that the West Ketchum Traffic Calming Project will be removed beginning on Monday, October 23, 2023. *(01:22:45 in video)*

MOTION:
Motion to adjourn at 10:31 AM
MOVER: Michael David
SECONDER: Seth Martin
All in favor, motion carried *(01:27:48 in video)*

Jade Riley
City of Ketchum Traffic Authority Chairperson
City Administrator

Kelli Trapp
City of Ketchum Traffic Authority Recording Secretary
Administrative Assistant Dept of Streets & Facilities

KTA 2.15.24 Agenda Item: Joni Cashman's request for a stop sign at the intersection of 2nd Ave & Sun Valley Road due to safety concerns for Pioneer Montessori students walking and trying to cross Sun Valley Road

From: City of Ketchum Idaho <participate@ketchumidaho.org>
Sent: Tuesday, September 19, 2023 3:34 PM
To: Participate <participate@ketchumidaho.org>
Subject: Form submission from: Contact Us

Submitted on Tuesday, September 19, 2023 - 3:34pm
Submitted by anonymous user: 174.27.79.47
Submitted values are:

First Name joni
Last Name cashman
Email joni.cashman@gmail.com
Question/Comment

Kelli Trapp,
Hello I contacted you recently regarding installing a stop sign at the intersection of 2nd Ave and Sun Valley Rd. I am a contract art teacher at Pioneer Montessori School there are 92 students at the school. I have safety concerns at the above intersection due to the increase in traffic in our community. We teachers like to take our students on walking field trips a stop sign would ensure greater safety in crossing Sun Valley rd. Also in the fall and spring students from our school go to Hemingway Steam school for after school activities. We as teachers support this stop sign as a safety measure. Thank you in advance for considering this request.
Sincerely'
Joni Cashman

The results of this submission may be viewed at: https://www.ketchumidaho.org/node/7/submission/11686

GALENA-BENCHMARK ENGINEERING

ENGINEERING, PLANNING, SURVEYING & MAPPING
PO Box 733 : 100 Bell Drive
Ketchum, Idaho 83340
208-726-9512 : info@bma5b.com

December 12, 2023

Ramsy Hoehn, Ketchum Street Superintendent
City of Ketchum – Street Department
P.O. Box 2315
Ketchum, Idaho 83340

RE: INTERSECTION SAFETY/PROPOSED ADDITIONAL STOP-CONTROL ENGINEERING STUDY
SUN VALLEY ROAD/N. 2ND AVENUE OR N. 1ST AVENUE - KETCHUM, IDAHO

Dear Ramsy:

Per your request, I have reviewed the intersections on Sun Valley Road at N. 1st Avenue and N. 2nd Avenue for consideration of adding STOP-control on the Sun Valley Road approaches to these intersections to address concerns regarding travel speeds and pedestrian-vehicle conflicts. This letter report summarizes my findings and recommendations.

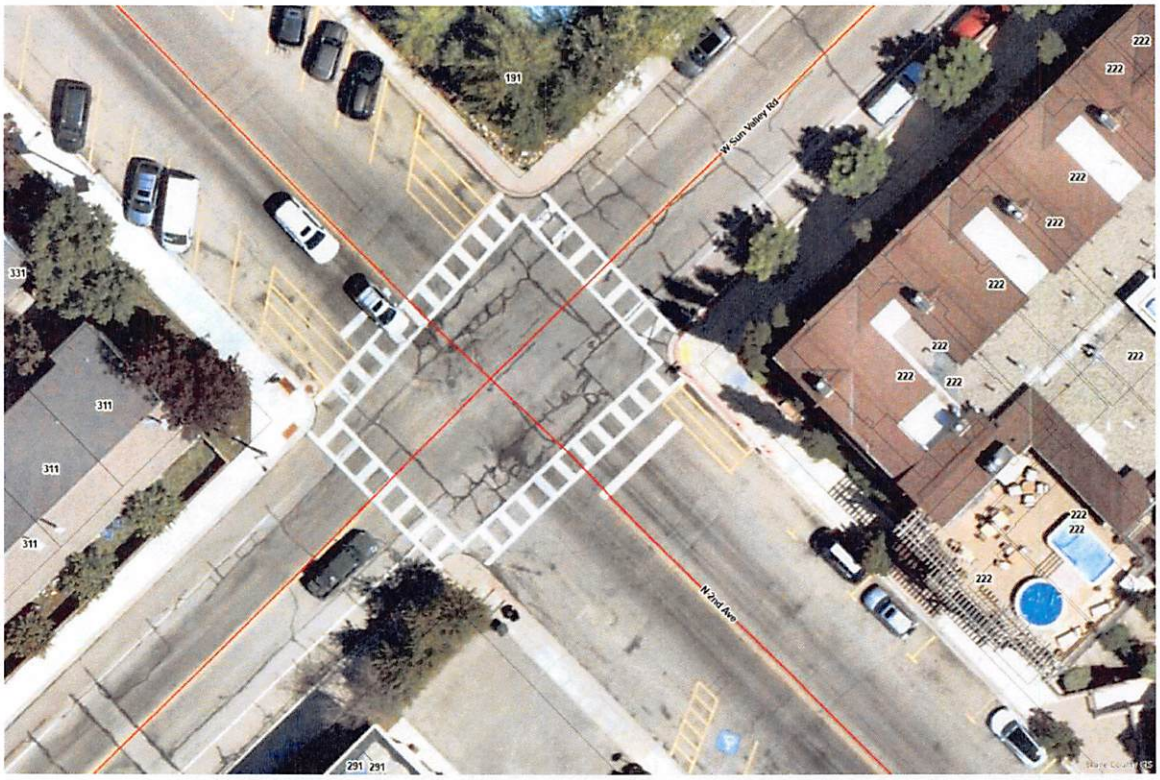
EXISTING CONDITIONS

Sun Valley Road - N. 2nd Avenue Intersection (see Figure 1 on Page 2):
This intersection is a four-leg intersection with Sun Valley Road as the east and west legs and N. 2nd Avenue making up the north-south legs. The N. 2nd Avenue approaches are currently STOP-controlled approaches. The Sun Valley Road approaches are uncontrolled. Based on the existing STOP-control on the N. 2nd Avenue, Sun Valley Road operates as the major street and N. 2nd Avenue the minor street. Sun Valley Road and N. 2nd Avenue are recommended to be functionally classified as "major collectors" in the City of Ketchum Master Transportation Plan (HDR, 11/17/2020), identifying both roads as primary vehicle travel routes with the city's limits. Each approach has one travel in each direction with adjacent parking. Sidewalks with ample width are provided on each side of each intersection leg, and crosswalks are well marked across all approaches.

Traffic count data was not available for review as part of this study. However, based on observations, specific peaks in traffic volumes appear to coincide with the overall A.M. and P.M. peak periods of the Ketchum downtown core, which are approximately from 7:00-9:00 in the A.M. peak period, and 4:00-6:00 in the P.M. peak period. Vehicle delays during these peak periods on the STOP controlled approaches are minimal (<10 seconds). The intersection appears to operate well below capacity during these peak periods. Only a few pedestrian movements were observed at this intersection, and all observed pedestrian movements did not interact or impact vehicle travel or delay.

One crash was recorded at the intersection in the last 10-year period, an angle crash involving a vehicle traveling southbound and a vehicle traveling eastbound under slushy surface conditions.

Figure 1. Sun Valley Road – N. 2nd Avenue Intersection (2023 Nearmap aerial photo)



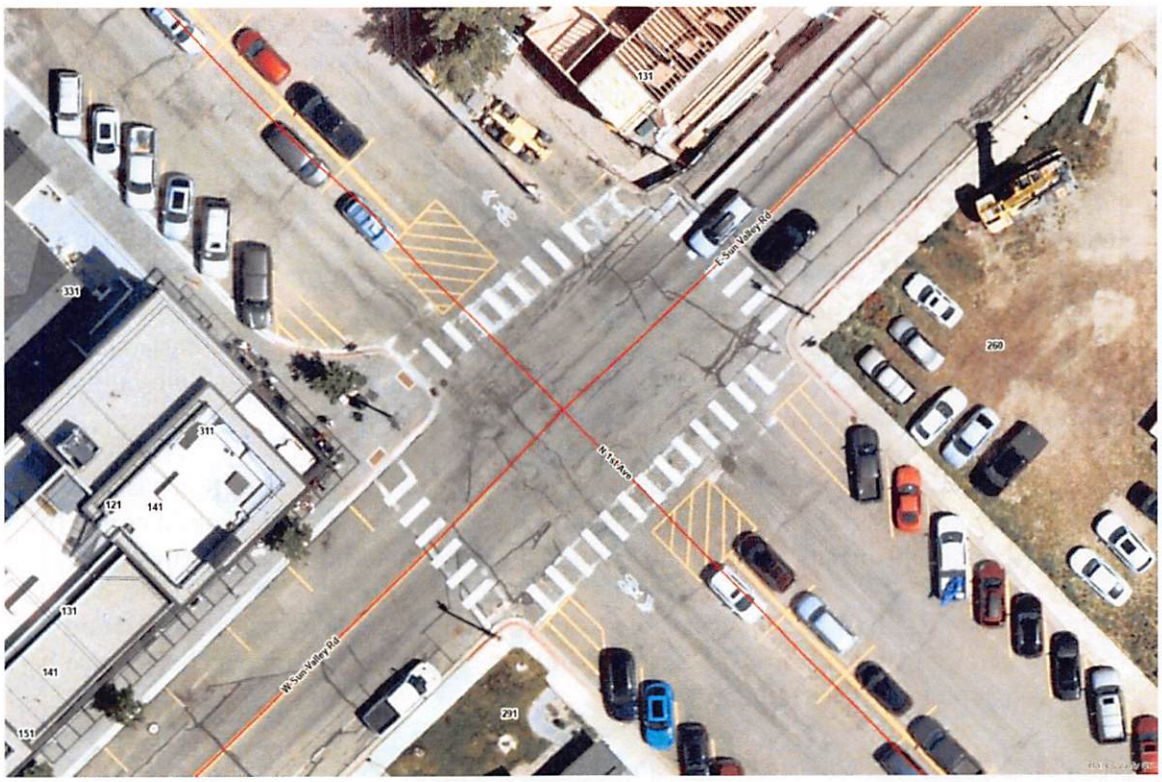
Sun Valley Road – N. 1st Avenue Intersection (see Figure 2 on Page 3):

This intersection is also a four-leg intersection with Sun Valley Road as the east and west legs and N. 1st Avenue making up the north-south legs. The N. 1st Avenue approaches are currently STOP-controlled approaches. The Sun Valley Road approaches are uncontrolled. Based on the existing STOP-control on the N. 1st Avenue, Sun Valley Road operates as the major street and N. 1st Avenue the minor street. N. 1st Avenue is recommended to be functionally classified as "local road" in the City of Ketchum Master Transportation Plan (HDR, 11/17/2020), while Sun Valley Road is identified as a "major collector." Major collectors are recognized as primary vehicle travel routes with the city's limits. Each approach has one travel lane in each direction with adjacent parking outside of the travel lane (note: the westbound approach of Sun Valley Road had construction in progress at the time of observations on the adjacent property that temporarily eliminated the adjacent parking and sidewalk. N. 1st Avenue also has adjacent parking inside of each travel lane). Sidewalks with ample width are provided (or are being constructed) on each side of each intersection leg, and crosswalks are well marked across all approaches. The northwest corner of the intersection includes a Ketchum standard bulb-out on the southbound N. 1st Avenue approach.

Traffic count data was not available for review as part of this study. However, like the Sun Valley Road-N. 2nd Avenue intersection, specific peaks in traffic volumes appear to coincide with the overall A.M. and P.M. peak periods of the Ketchum downtown core (again, approximately from 7:00-9:00 in the A.M. peak period, and 4:00-6:00 in the P.M. peak period). Vehicle delays during these peak periods on the STOP controlled approaches are minimal (<10 seconds). The intersection appears to operate well below capacity during these peak periods. No pedestrian movements were observed at this intersection. One bicycle rider was observed in the southbound travel lane on N. 1st Avenue. The bicyclist did not stop at the STOP controlled approach, but no vehicles were present on Sun Valley Road at the intersection when the bicyclist crossed the intersection.

Two crashes were recorded at the intersection in the last 10-year period; One head-on, injury complaint collision involving a vehicle traveling eastbound and a vehicle traveling westbound, and one minor injury collision involving a southbound vehicle and pedestrian.

Figure 2. Sun Valley Road – N. 1st Avenue Intersection (2023 Nearmap aerial photo)



INTERSECTION IMPROVEMENTS TO CONSIDER

Based on my observations of the existing intersection characteristics and traffic operations, and my review of the relevant sections of the Manual on Uniform Traffic Control Devices for Streets and Highways ("MUTCD") and the ITE Traffic Engineering Handbook, the Traffic Authority can consider the following recommendations for addressing the concerns regarding travel speeds and pedestrian-vehicle conflicts at both intersections:

1. *Install Additional Traffic Signage.*
   The Ketchum Streets Department has provided appropriate pavement markings for parking restrictions and crosswalks on all approaches. Additional traffic signage may be considered for all approaches. For example, "Pedestrian Crossing Ahead/Reduce Speed" signs could be considered for the Sun Valley Road approaches (approximately 100-feet from the crosswalks), and "Cross Traffic Does Not Stop" signs could be added to the STOP signs on the minor street approaches. All such signage shall comply with MUCTD standards.

   Costs associated with this option include $400 per sign installation.

2. *Install pedestrian-friendly and traffic calming improvements, such as bulb outs.*
   Bulb-outs at intersection corners help to reduce the amount of travel time pedestrians spend in a crosswalk. The bulb-outs also allow pedestrians to move out into a location more visible to vehicle drivers before the pedestrians enter the vehicle's travel way, thereby heightening the motorists' awareness of pedestrians at the intersection. Vehicle drivers perceive bulb-outs as travel way constrictions often resulting in reduced travel speeds. Bulb-outs with full curbs can be maintenance concerns for snowplow operators, but flat curb bulb-outs are an option to lessen some of these concerns. Stormwater runoff drainage can also be a concern when retrofitting bulb-outs to existing intersections, and can add significant costs to construction. Ketchum has adopted a "standard" bulb-out design for intersection corners in the downtown core, and requires installation of these bulb-outs with development of private property.

   As previously noted, the southbound approach to the N. 1st Avenue intersection has an existing bulb-out, and the development currently in construction at the northeast corner of the intersection will install a similar bulb-out on the northbound side of the north leg.

   Costs associated with this option can vary greatly depending on the overall infrastructure involved, but for planning purposes, costs for adding bulb-outs at this intersection should be estimated at no less than $150,000.

3. *Install additional STOP-control on the Sun Valley Road approaches.*
   The warrants from the MUTCD for installation of a STOP control at an intersection (see Appendix A) are not met at these intersections. And, studies have shown STOP signs are an ineffective means of controlling or reducing mid-block travel speeds. Section 2B.04.05 of the MUTCD specifically notes that <u>STOP signs should not be used for speed control.</u>

   Additional STOP control on the Sun Valley Road approaches will introduce delays and vehicle queues on these currently uncontrolled approaches, especially during peak periods. However, the expected delays and queues are anticipated to be minimal regarding traffic operations; More specifically, delays and queues can be expected to be like those already

experienced on the minor street approaches with existing STOP-control. Overuse of STOP control at intersections can encourage non-compliance with some motorists. STOP-control can also increase the risk of rear-end type crashes at these approaches, but often can reduce the severity of other types of crashes, such as head-on, angle, and sideswipe collisions. And finally, STOP control increases adverse environmental impacts associated with motor vehicles stopping and starting, such as fuel consumption, air quality, and noise.

However, if the Traffic Authority still wants to consider additional STOP control on the Sun Valley Road approaches, the MUTCD does allow for consideration of installation of STOP control based on engineering judgment. Specific references in the MUTCD relevant to these intersections are:

a. Section 2B.07, paragraph 01, which regards multi-way stop control used as a safety measure at intersections where the volume of traffic on the intersecting roads is approximately equal, and pedestrians, bicyclists, and all road users expect other road users to stop, and;
b. Section 2B.07, paragraph 05, which regards considering criteria such as controlling left-turn conflicts, controlling vehicle-pedestrian conflicts near locations that generate high pedestrian volumes, and improving traffic operational characteristics of the intersection of two streets of similar design.

Regarding 2B.07.01, as noted, traffic volume counts were not available for this study, but observed traffic volumes on the minor, STOP controlled street were similar to the observed traffic volumes on Sun Valley Road. The existing condition of no STOP-control on the Sun Valley Road approaches while STOP control is utilized on the minor approaches can lead to confusion at these intersections. That is, drivers, pedestrians, and bicyclists that approach the intersection on an approach with STOP control often assume all other approaches have a similar STOP control and will incorrectly assume they have the right-of-way, even while identifying oncoming traffic.

Regarding 2B.07.05, the first criterion of this paragraph addresses the assignment of turning movements and the potential anticipation of all intersection users to stop at each approach. The second criterion is specific to reducing vehicle-pedestrian conflicts, and the Ketchum downtown core promotes pedestrian mobility and safety. The third criterion is also relevant since the operations of the intersection street are of similar design, but STOP control already exists on both minor street approaches.

The addition of STOP control on the eastbound and westbound Sun Valley Road approaches will make these intersections ALL-WAY STOP control intersections. ALL-WAY STOP-controlled intersections are now common in the Ketchum downtown core. An ALL-WAY STOP controlled intersection can facilitate assigning right-of-way priority to traffic movements at the intersection. In addition, such multi-way stop-control may help to minimize minor safety concerns associated with partial sight distance restrictions which can be experienced on the uncontrolled approaches at these intersection at certain times (e.g. due to snow storage or parked cars near the intersection).

Costs associated with this option include $400 per STOP sign with "ALL-WAY STOP" included, and $200 per thermoplastic STOP BAR pavement marking installation.

GENERAL COMMENTS

A STOP sign is one of the most effective and valuable traffic control devices for helping vehicle drivers, bicyclists, and pedestrians decide who has the right-of-way at an intersection. The MUTCD is a set of well-developed, federal, and state recognized guidelines to help indicate when STOP control is necessary, considering the probability of vehicles arriving at the intersection at the same time, traffic delays, and the availability of safe crossing opportunities. As the reader probably recognizes, recommending additional STOP control when MUTCD warrants are not met is difficult. However, the ease of implementation of additional STOP control compared to traffic calming measures (e.g. the installation of bulb-outs) to promote pedestrian mobility and safety is understandable. Therefore, the Traffic Authority should recognize choosing to install additional STOP control at either of these intersections is more of a subjective decision regarding those judgement considerations identified above.

An additional suggestion, specific to adding STOP control at intersections where the MUTCD warrants for STOP control are not met, is to allow for a "test period" of the proposed STOP control. Temporary signing and pavement markings can be utilized before installing permanent measures. This test period is recommended to be at least a month, and traffic operations with the additional STOP control should be monitored carefully to determine the effectiveness towards the desired outcome, so any revisions can be identified without the need for an additional engineering investigation.

Thank you for the opportunity to provide this engineering study regarding adding STOP control to the Sun Valley Road approaches to the N. 1st Avenue and N. 2nd Avenue intersections. Please let me know if you have questions.

Sincerely,

Jeff Loomis, PE
Civil Engineer (Idaho P.E. #7986)

STOP Sign Installation

In consideration of installing additional STOP signs at an intersection, the Traffic Authority should recognize that the STOP sign could substantially inconvenience motorists. In general, this sign should be used only where warranted, and the MUTCD specifically states that a STOP sign should NOT be used for speed control (see Section 2B.04.05 quoted below). The MUTCD encourages consideration of less restrictive measures where a full stop is not necessary at all times. That said, the MUTCD Section 2B.04 states, "the right-of-way [at intersections] can be modified....by placing YIELD (R1-2) signs....or STOP (R1-1) signs.....on one or more approaches." This section of the MUTCD continues:

"Guidance:

02 Engineering judgment should be used to establish intersection control. The following factors should be considered:
- *A. Vehicular, bicycle, and pedestrian traffic volumes on all approaches;*
- *B. Number and angle of approaches;*
- *C. Approach speeds;*
- *D. Sight distance available on each approach; and,*
- *E. Reported crash experience.*

03 YIELD or STOP sign should be used at an intersection if one or more of the following conditions exist:
- *A. An intersection of a less important road with a main road where application of normal right-of-way rule would not be expected to provide reasonable compliance with the law;*
- *B. A street entering a designated through highway or street; and/or*
- *C. An unsignalized intersection in a signalized area.*

04 In addition, the use of YIELD or STOP signs should be considered at the intersection of two minor streets or local roads where the intersection has more than three approaches and where one or more of the following conditions exists:
- *A. The combined vehicular, bicycle, and pedestrian volume entering the intersection from all approaches average more than 2,000 units per day;*
- *B. The ability to see conflicting traffic on an approach is not sufficient to allow a road user to stop or yield in compliance with the normal right-of-way rule if such stopping or yielding is necessary; and/or*
- *C. Crash records indicate that five or more crashes that involve the failure to yield the right-of-way at the intersection under the normal right-of-way rule have been reported within a 3-year period, or that three or more such crashes have been reported within a 2-year period.*

05 YIELD or STOP signs should not be used for speed control.

Support:

06 Section 2B.07 contains provisions regarding the application of multi-way STOP control at an intersection.

Guidance:

07 Once the decision has been made to control an intersection, the decision regarding the appropriate roadway to control should be based on engineering judgment. In most cases, the roadway carrying the lowest volume of traffic should be controlled."

08 A YIELD or STOP sign should not be installed on the higher volume roadway unless justified by an engineering study."

09 The following are considerations that might influence the decision regarding the appropriate roadway upon which to install a YIELD or STOP sign where two roadways with relatively equal volumes and/or characteristics intersect:

A. Controlling the direction that conflicts the most with established pedestrian crossing activity or school walking routes;

B. Controlling the direction that has obscured vision, dips, or bumps that already require drivers to use lower operating speeds; and

C. Controlling the direction that has the best sight distance from a controlled position to observe conflicting traffic

If the Traffic Authority decides to install additional STOP signs at an intersection, then the MUTCD is specific about how the sign should look, and any supplemental signs that should be considered. MUTCD Section 2B.05 STOP Sign (R1-1) and ALL WAY Plaque (R1-3P) states:

"Standard:

01 "When it is determined that a full stop is always required on an approach to an intersection, a STOP (R1-1) sign (see Figure 2B-1) shall be used.
02 The STOP sign shall be an octagon with a white legend and border on a red background
03 Secondary legends shall not be used on STOP sign faces.
04 At intersections where all approaches are controlled by STOP signs (see Section 2B.07), an ALL WAY supplemental plaque (R1-3P) shall be mounted below each STOP sign. The ALL WAY plaque (see Figure 2B-1) shall have a white legend and border on a red background."

With regards to actual warrants for the use of STOP-sign control at an intersection, the MUTCD outlines the following in Section 2B.06 STOP Sign Applications, and Section 2B.07 Multi-Way Stop Applications:

"Guidance:

01 "At intersections where a full stop is not necessary at all time, consideration should first be given to using less restrictive measures such as YIELD signs (see Sections 2B.08 and 2B.09)

02 The use of the STOP signs on the minor-street approaches should be considered if engineering judgment indicates that a stop is always required because of one or more of the following conditions:

a. .The vehicular traffic volumes on the through street or highway exceed 6,000 vehicles per day;
b. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway; and/or
c. Crash records indicate that three or more crashes that are susceptible to correction by the installation of a STOP sign have been reported with a 12-month period, or that five or more such crashes have been reported within a 2-year period. Such crashes include right-angle collisions involving road users on the minor-street approach failing to yield the right-of-way to traffic on the through street or highway.

Support:

03 The use of STOP sign at grade crossings is described in Sections 8B.04 and 8B.05."

MUTCD Section 2B.07 Multi-Way Stop Applications

"Support:

01 Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.

02 The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

Guidance:

03 The decision to install a multi-way stop control should be based on an engineering study.

04 The following criteria should be considered in the engineering study for a multi-way STOP sign installation:

- *a. Where a traffic signal is justified, the multi-way STOP is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*
- *b. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way STOP installation. Such accidents include right- and left-turn collisions, as well as right-angle collisions.*
- *c. Minimum traffic volumes:*
  - *i. The total vehicular volume entering the intersection from the major street approaches averages at least 300 vehicles per hour for any 8 hours of an average day, and*
  - *ii. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street averages at least 200 units per hour for the same 8 hours, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the maximum hour, but*
  - *iii. When the 85th-percentile approach speed of the major street traffic exceeds 40 miles per hour, the minimum vehicular volumes warrants is 70 percent of the above values.*
- *d. Where no single criterion is satisfied, but where criteria 2, and 3(a) 3(b) are satisfied to 80 percent of the minimum values. Item 3(c) is excluded under these conditions.*

Option:

05 Other criteria that may be considered in an engineering study include:

- *a. The need to control left-turn conflicts;*
- *b. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes.*
- *c. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless the conflicting cross traffic is also required to stop; and*
- *d. At the intersection of two residential neighborhood "collector" (through) street of a similar design and operation characteristics where multi-way stop control would improve traffic operational characteristics of the intersection."*