

MEMORANDUM

River Pass / Saddle Horn Safety Audit Early Data Summary and Action Items

Date: September 7, 2023

To: Eric Fuhrman, P.E.
Town of Timnath

From: Martina Wilkinson, P.E. PTOE *mgw*
Joe Olson, P.E.

Subject: River Pass Road and Saddle Horn Drive Safety Audit – Early Action Memo

The Town of Timnath has requested a safety audit at the intersection of River Pass Road and Saddle Horn Drive due to a traffic crash that occurred on August 2nd that resulted in fatal injuries for a young boy riding his bicycle.

Safety audits are important and helpful elements of roadway safety efforts especially in locations where a severe or fatal crash has occurred. Components of the audit include traffic data collection, a site visit(s) for review and analysis at the location, evaluation of the conditions/operations against national engineering standards and best practices, a thorough review of the circumstances of the crash to understand what happened, and ultimately recommendations for any changes.

The official crash report is in process with the Larimer County Collision Reconstruction and Scene Handling Team (CRaSH). Reports involving a fatality can take weeks to finalize, and as of the date of this memo, the report is not yet available. Therefore, the full safety audit cannot be finalized until the crash report is complete and reviewed. However, there are several other efforts related to the safety audit that are underway. This memo details those efforts and provides a summary of data, and an 'early action item' for a recommendation to the intersection while awaiting the final report.

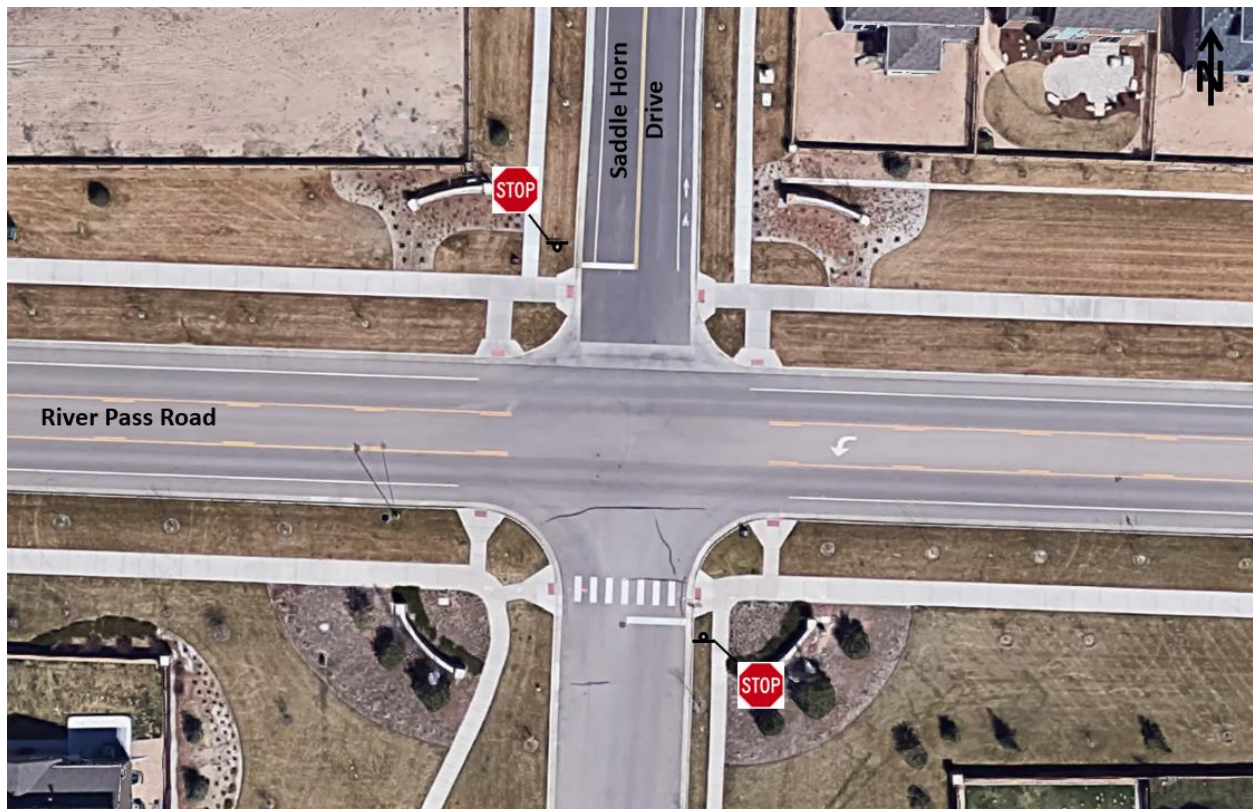
Safety Audit Elements

The Town is taking the following actions to understand what happened, gather and evaluate data, and identify next steps as well as any potential mitigation measures to support pedestrian and bicycle safety in Timnath and minimize the risk for everyone traveling Timnath streets.

- The official crash report is in process with the Larimer County Collision Reconstruction and Scene Handling Team (CRaSH). Reports involving a fatality can take several weeks to finalize.
Current status: The report may not be available until sometime later in September.

- Timnath Public Works is working with Timnath Police Department and the Larimer County Sheriff's Office to gather information on any other reported crashes in the vicinity and compile data on moving violations in the area. *Current Status: Data became available on August 29th.*
- Timnath Public Works Department placed temporary speed feedback trailers for both eastbound and westbound traffic on River Pass Road beginning August 22nd. The trailers are intended to provide speed reminders to motorists and also gather data on traffic volume and speed. *Current status: The first set of data became available on August 30th.*
- Video was recorded at the intersection of River Pass Road and Saddle Horn Drive for four days (weekday August 24-25 and weekend August 26-27). The recording was delayed until school started so that pedestrian, bicycle, and vehicle volumes would reflect school traffic. The information will provide detailed data on volumes to be used in operational analysis and provide insight into any observed concerns. *Current status: A review of a weekday is complete, and a review of the weekend is underway.*
- Data compilation, evaluation, analysis, and recommendations are ongoing.
- Both Timnath and Next Phase Engineering staff have been to the site several times and will continue to gather additional information on site as needed.

The exhibit below shows the intersection including geometry and control. The image is from early 2023. Since that time a painted crosswalk was added on the north leg across Saddle Horn Drive as a part of the Poudre Trail.



Intersection Information

Intersection information and various data have been collected. Compilation, summarization, and analysis are ongoing, but initial information is summarized below.

Geometrics, Intersection Control, and Land Use

River Pass Road:

- Three-lane collector roadway with one through lane in each direction, a center turn lane, and bicycle lanes.
- Overall width is 45 ft. Travel lanes and center turn lane are 11 ft, and bike lanes are 6 ft.
- The speed limit is posted at 40 mph.

Saddle Horn Drive:

- Two lane local road with one travel lane in each direction.
- North of River Pass:
 - Overall width is 38 ft with roadway striping for two travel lanes and two bike lanes. There is no parking.
 - The speed limit is posted at 25 mph.
- South of River Pass:
 - Overall width is 44 ft with no roadway striping. Parking is allowed.
 - The speed limit is not posted but is a statutory 25 mph.

The intersection is controlled with STOP signs on Saddle Horn Drive. There are marked crosswalks on the north and south legs of the intersection. There are detached sidewalks with ramps and detectable warning devices on all approaches to the intersection.

Area land use is single family residential with the Summerfields subdivision to the south, and the West Village subdivision to the north. There are no driveways / accesses to either River Pass or Saddle Horn in the vicinity of the intersection. All residential properties have access from other, internal local roadways.

Volumes

A video camera was placed on a speed limit sign just west of the intersection and recorded four days of time between Wednesday, August 23rd, and Monday, August 28th. The most typical weekday during this time was Thursday, August 24th with good weather and school in session. Detailed information regarding vehicle, pedestrian, and bicycle movements in the intersection was captured and summarized.

On an average weekday, the following data has been summarized:

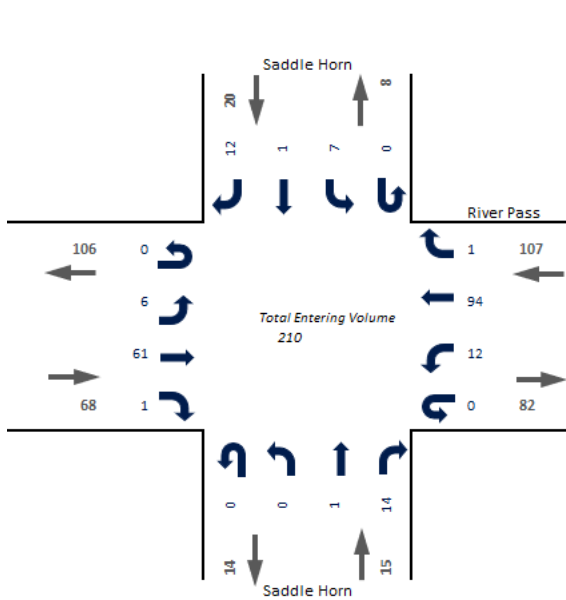
- Average weekday vehicle volumes on River Pass Road: 1,600 vehicles per day
- Average weekday vehicle volume on Saddle Horn Drive: 223 vehicles per day
- Total daily number of bicyclists using the bike lanes: 48 (1 child)
- Total daily number of bicyclists using the sidewalks: 34 (12 children)
 - Crossing River Pass: 8 (0 children) and crossing Saddle Horn: 26 (12 children)

- Total daily number of pedestrians crossing at the intersection: 109 (3 children)
 - Crossing River Pass: 25 (0 children) and crossing Saddle Horn: 84 (3 children)

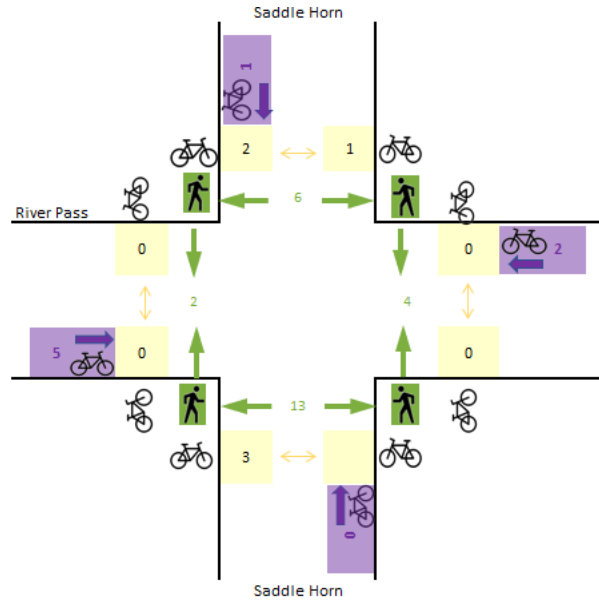
The busiest, or “peak” hours of travel times are between 7:30 - 8:30 a.m., and again from 4:45 - 5:45 p.m. The exhibits below show the detailed numbers of vehicles, pedestrians and bicyclists using the intersection during the morning and evening peak hour.

AM Peak

Vehicle Movements

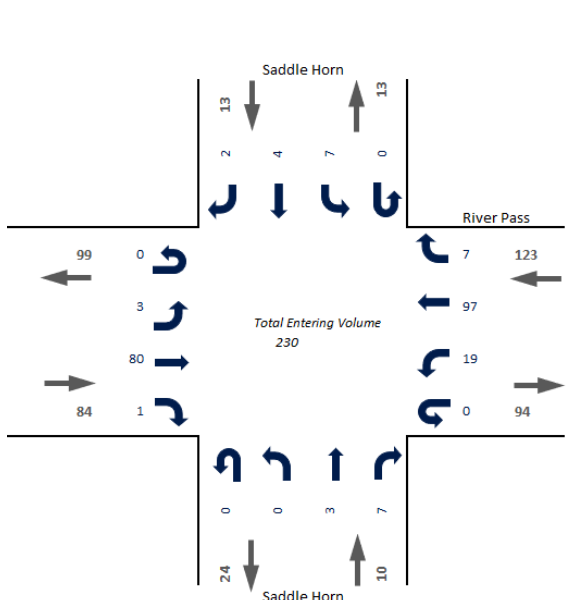


Bicycle and Pedestrian Movements

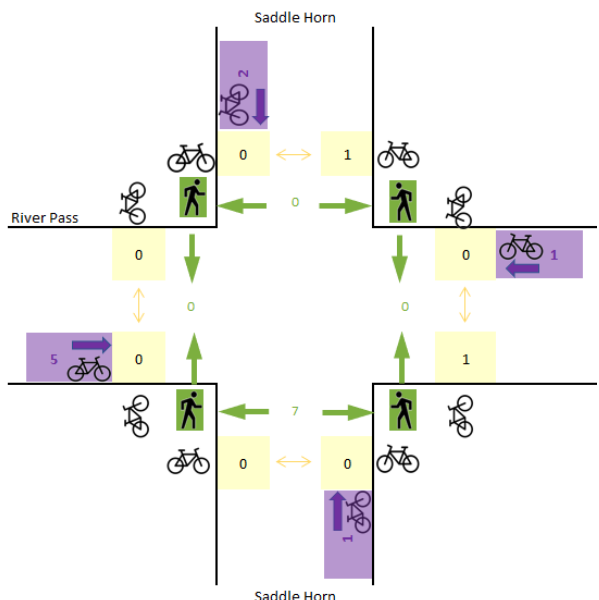


PM Peak

Vehicle Movements



Bicycle and Pedestrian Movements



During the busiest time of day for a single hour, the following data has been summarized:

- Vehicle traffic on River Pass Road: 217 vehicles
- Vehicle traffic on Saddle Horn Drive: 34 vehicles
- Bicyclists in the bike lanes: 9
- Pedestrians/bicyclists crossing Saddle Horn in the crosswalks: 25
- Pedestrians/bicyclists crossing River Pass in the crosswalks: 6

Next Steps: This information, together with all the crash data (once available) will be used to evaluate operations at the intersection, review criteria for the most appropriate type of intersection control and identify whether any changes in signing and striping (such as crosswalks) are appropriate.

Vehicle Speeds Along River Pass Road

Vehicle speed data has been collected using the radar speed trailers placed in close proximity to the intersection during the last week in August. Summary information is shown below:

- Eastbound travel:
 - Average speed: 32 mph
 - 85th percentile speed*: 38 mph
 - Percent of vehicles traveling more than the speed limit (40 mph): 4.4%
- Westbound travel:
 - Average speed: 24 mph
 - 85th percentile speed*: 33 mph
 - Percent of vehicles traveling more than the speed limit (40 mph): 0.84%

** The 85th percentile speed is the speed at or below which 85 percent of drivers travel on a road segment. It is used to understand normal prevailing speeds on a road.*

Speed Limit Review

The setting of speed limits is governed by a national standard called the Manual on Uniform Traffic Control Devices (MUTCD). It is developed and managed by the Federal Highway Administration and provides details on the required engineering study, and guidance on the use of engineering judgment when setting speed limits.

A starting point for a speed limit is to review the 85th percentile speed. This is the speed at or below which 85 percent of drivers are traveling on a road segment. Numerous studies have shown that most drivers will drive at a speed that they feel is safe and reasonable for a roadway, regardless of the speed limit. Setting a speed limit at the 85th percentile results in most drivers being compliant with the speed limit.

For the River Pass Road corridor between Three Bell Parkway and Summerfields Parkway, the 85th percentile speeds are between 33 and 38 mph. Setting a speed limit of 35 mph is reasonable and justifiable from a data perspective.

Setting a speed limit lower than the 85th percentile should be done only after careful review and consideration. Reasons for doing so can include hazards or risks that are not evident to drivers, or if the character of a roadway, surrounding land use, or type of road user creates a specialized condition that would warrant a lower speed limit.

It is important to note that simply lowering the numbers on the speed limit signs has been proven to have very limited, if any effect on travel speeds. Therefore, lowering the speed limit beyond the 85th percentile is effective only when combined with other changes. The current character and feel of River Pass Road in the vicinity of Saddle Horn Drive is a long, straight wide roadway, without driveways, accesses, parking, medians, speed tables, or other features that would encourage slower speeds. Any consideration of lowering the speed limit to less than 35 should be prefaced with a review of options to change the character of the road through re-striping or other features.

Recommendations and Next Steps: Following analysis of the recently collected data it is recommended that the speed limit be lowered to 35 mph along River Pass Road. Any consideration of a further lowering of the speed limit (to 30 mph) should only occur after the feel / character of the roadway has been changed.

Summary and Next Steps

A large amount of data has been collected to date and is in the process of being compiled. The data will be analyzed against national standards and best practices for intersection control, crosswalk evaluation, and consideration of various roadway character changes. The full safety audit will be finalized once the crash report is available.

In the short term, it is recommended that the speed limit along River Pass Road be reduced to 35 mph.

Frequently Asked Questions:

Discussed below is a list of frequently asked questions related to transportation safety, and the specific work that is currently underway at the intersection of River Pass Road and Saddle Horn Drive.

1. Can the speed limit be lowered?

The speed limit along River Pass Road is being reviewed as part of the safety audit. It is important to note that a change in speed limit alone does not typically result in a measurable change in average travel speeds, as motorists drive at the speed they feel is safe and reasonable regardless of the numbers on the signs. **The initial data shows that a change in the speed limit along River Pass Road to 35 mph is warranted, and that change is recommended.** Any changes to lower the speed limit to less than 35 mph would need to be accompanied by recommendations to change the character or feel of the roadway to encourage lower speeds. That review is ongoing.

2. Can we get an all-way STOP at the intersection?

The implementation of all-way STOP is guided by a national standard that reviews volumes, turning movements, visibility, and crossing maneuvers and based on decades of operational

and safety data identifies the most appropriate type of control. This review is ongoing, and the final safety audit will include an analysis and determination of whether an all-way STOP should be recommended.

One consideration is that numerous studies have shown that installing stop signs has no effect on overall speeds in a corridor and stop signs that are installed in locations where they are not operationally needed result in low compliance and can lead to safety issues with pedestrians/bicyclists crossing the roadway having a false sense of security. The recommendation for control at this intersection will be based on the best anticipated safety performance.

3. Can we get a painted crosswalk for bicyclists and pedestrians crossing River Pass?

The potential for adding striping for a crosswalk is being reviewed as part of the safety audit. Crossing guidelines from nearby agencies (including Loveland, Windsor, Golden, Boulder, and Fort Collins) with more experience on these issues will be used for the evaluation at this location.

We want to be careful to make sure any changes make sense based on safety research and experience with the devices in surrounding communities and across the nation. For instance, in some circumstances, a simple painted crosswalk across a major roadway may create a false sense of security that actually degrades overall pedestrian safety.

4. Why is this taking so long and when will the information be available?

The intersection review is underway. Data is being collected and processed as we speak. This 'early action' memo includes an immediate recommendation for a lowered speed limit to 35 mph. The full safety audit with all the other ongoing analyses will be completed once the final crash report is available for review.

5. What can we ALL do to support roadway safety?

Everyone (whether in vehicles, on motorcycles, bicycles, scooters, or walking) using the transportation system should have the ability to move about the community safely. Making that happen is a shared responsibility among everyone building, operating, and using the roadway system. Together, we can make a difference. Please:

- Observe and obey all traffic laws, signs, and signals.
- Don't drive distracted. Put down your cell phone.
- Motorists should watch carefully for motorcycles, bicyclists, and pedestrians.
- Drive, walk, and bike defensively.
- Obey the speed limit.
- Educate residents of all ages on safe walking and biking behaviors.
- Buckle up and never drive impaired.
- Share the road.