

To: Distribution  
From: Mark Zanmiller

Dec 8, 2018

Subject: Streets Alive/Heights Traffic Camera Study Sept 28 to Oct 11, 2018

---

**Background.** I volunteered to help the Streets Alive organization committee by setting up and collecting video records of three intersections in the Heights. The goal was to collect a record of intersection vehicle/pedestrian activity and observe levels of safety with the existing minimal crosswalk striping, and then with the enhanced striping that was added as part of the Streets Alive event. Videos were collected on 6 days to allow observation on both weekends and weekdays. The videos are available in a [Dropbox folder that can be found here](#).

### Summary of Conclusions and Recommendations

- Bicyclists hate travel on 12<sup>th</sup> and 13<sup>th</sup> and pedestrians don't like crossings either (nervous and careful).
- The area around Pine and 12<sup>th</sup> is very complicated and should be a focus for a professional traffic design review. Would a second 12<sup>th</sup> St crosswalk at the south side of Taylor help?
- The painted crosswalks and bump-outs did work – I observed that they make pedestrians more comfortable (given the improved markings and sight-lines). The bump-out at 12<sup>th</sup> at Pine did have an unintended consequence of complicating right turns (both from 12<sup>th</sup> and from Taylor) and would have to be redesigned somewhat in a longer-term demonstration (moving to the South just a few feet should do the trick).
- Other intersections that were not part of this review should also get similar attention. Neighbor comments are often heard about difficulties seeing traffic at B and 13<sup>th</sup>, and the intersections on 12<sup>th</sup> between Union and Hull are potentially as complicated as at Pine St.
- Prioritize the follow-on activity to define intersections where safety could be enhanced in a near term demonstration program using painting and similar 'simple' techniques. See the last page of this report for some recommended options. **I strongly recommend that these simple steps be made to improve safety in the Heights.**

### Raw Collection Info.

- Observations were collected with 4 GoPro cameras at three intersections:
  - **PN.** Pine St North. Pine and 12<sup>th</sup>. N side of Pine, mounted near top of Stop sign aiming SW.
  - **PS.** Pine St South. Pine and 12<sup>th</sup>. S side of Pine, mounted on telephone pole aiming NW.
  - **CS.** 13<sup>th</sup> and C St. S side of C St, mounted near top of Stop sign aiming NE.
  - **TS.** 13<sup>th</sup> and Taylor St. S side of Taylor, mounted on telephone pole aiming NE.
- 6 days – 158.8 hrs of snaps.
  - Pre Streets Alive and without enhanced intersection striping on Sept 28 and 29
  - Streets Alive day Sept 30. Enhanced striping, intersection monitors, and festival lane closures.
  - Post Streets Alive with the enhanced striping that was maintained after event. Oct 1, 4, and 11.
- 571,931 snapshots at 1 second intervals. Pictures are 1280x720 resolution.
- 522GB of photos.
- I purchased Adobe Premier Elements to render the still images into 25 videos. File names include camera location and date.
- The videos, even though they are set up for a smaller 720x512 Standard definition size and just OK quality are still quite large (thus the Dropbox folder).
- The video plays at 25 snaps/second so is 25 seconds of real time per second of video. Having a viewer that allows you to step frame by frame is useful so when you see something interesting, you can stop and step through it slowly – I use a free viewer called [VLC Media Player](#).

## Video Review Observations.

The following pages present my observations related to intersection safety at the three study intersections. Though I carefully watched all of the videos and identified trends and issues from my perspective, they are not exhaustive in nature and I am not an experienced traffic analyst. The goal is that these observations can be a good starting point to other reviews of the video records and follow on studies.

I did not carefully review the videos from Streets Alive day since it does not reflect normal state of vehicle / pedestrian behaviors.

References to examples in video are made parenthetically with Camera ID.Date.Timestamp – example: (PS.S30.4:14) would reference an event seen in Pine St North camera on Sept 30 at the 4:14 point in the video.

### Observations – Pine St and 12th

1. Very few bicycles use 12<sup>th</sup> St going North. There are more bikes using the sidewalks and crosswalks than using the street. Bikes on sidewalks create their own issues and is a clear indication that 12<sup>th</sup> is not considered bike safe or friendly (not a big surprise).
  - a) Sidewalk (PS.O11.1:33), (PS.S28.1:57), (PS.S29.4:33), (PN.O1.0:17), (PN.O4.1:05),
  - b) Bike wiggle (PS.O1.0:12), (PS.S28.1:13), (PS.S29.9:51)
  - c) Bike S-bound wiggle (PN.S29.9:52)

2. Big issue A (see diagram) – the Wiggle.

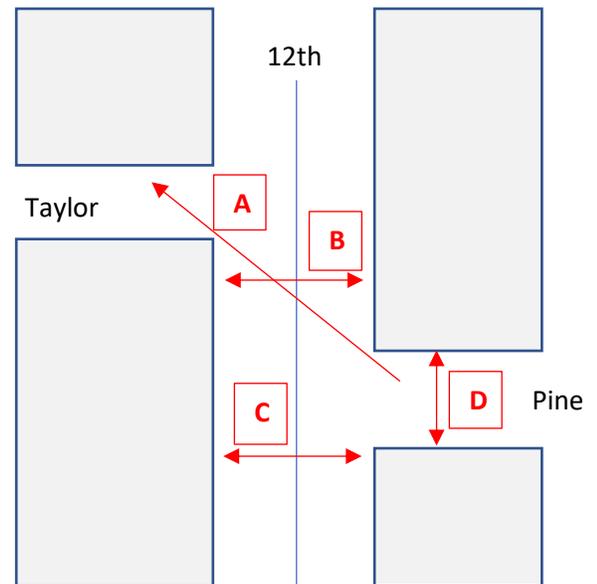
I don't know if anything can be changed to make this better, but the wiggle is the dominant scary thing in this intersection.

- a) Cars making the right onto 12<sup>th</sup> have to cross both lanes so are concentrating more on the window they need and much less on pedestrians crossing Pine or jaywalking across 12<sup>th</sup>.
- b) They also move further out into the intersection prior to making their right – blocking the sidewalk almost completely and forcing pedestrians to walk behind the cars in some cases.
- c) It is hard for these cars to see parked cars on W side of 12<sup>th</sup> who are about to pull out.
- d) My rough estimate from watching the video from PS is that about 50% of the cars turning right from Pine are making the wiggle turn onto Taylor.
- e) What happens to this turn when May St entrance moves to Pine?
- f) Wiggle + jaywalker close calls (PS.S28.3:59), (PS.S29.4:01), (PS.S29.4:20)

3. Big issue B (see diagram) – Jaywalkers.

Though not illegal, and probably using the wrong term here, pedestrians crossing 12<sup>th</sup> but not in the E-W crosswalk complicate the intersection.

- a) I see as many, if not more, jaywalkers as users of the crosswalk. It is just inconvenient to walk up to the crosswalk and then North across Pine.
- b) If parking is full leading up to the bakery, people will park on W side of 12<sup>th</sup> and dash across (see 3.c above for another risk with this).
- c) Would a second crosswalk across 12<sup>th</sup> at the S side of Taylor help?
- d) In addition to 2.f examples of jaywalkers at risk, see (PS.O11.2:44), (PS.O4.2:25), (PS.S29.3:17)



## Observations – Pine St and 12<sup>th</sup> (Continued)

4. Big issue C (see diagram) – marked crosswalk on 12<sup>th</sup>.
  - a) My biggest observation is that crossers at the crosswalk are nervous and have learned to be on the lookout.
  - b) I do notice more confidence with the enhanced crosswalk and bump-out which allows greater visibility for both walkers and cars.
  - c) Scariest are when one lane of traffic stops but the other does not (PS.S29.2:09), (PN.O11.5:03), (PN.O11.10:23), (PN.O11.12:26),
  - d) See other examples of crosswalk not being fun at (PS.S29.2:27), (PS.S29.6:07), (PS.S29.14:08), (PS.O11.1:37), (PS.O11.1:14), (PN.O1.0:14), (PN,O1,3:50)
  
5. Big issue D (see diagram) – Pine St crosswalk.
  - a) Throughout the videos, you can see how cars turning right off Pine have to move into the crosswalk to be able to see traffic coming down 12<sup>th</sup>. (PN.O1.2:20)
  - b) If the cars are doing the wiggle, they are even further out.
  - c) More from my observation as a pedestrian, people in cars turning right are not looking at pedestrians coming out of the bakery when they initiate their turn.
  - d) People parked on S side of Pine are very loose with their crossing of Pine – I would say most are jaywalking. Will this self-police when the street gets busier when the school traffic changes?
  - e) When the big cones were used to protect the painted bump out, cars moved even further into the intersection (unintended consequence).
  - f) Also related to the bump-out, cars turning R onto pine from 12<sup>th</sup> used much more of the intersection and in some cases had to do a 3 pt turn (really dangerous). (PS.O1,0:11), (PS.O1.10:49), (PN.O1,10:29)
  - g) When the bump out cones were moved to the curb (see Oct 4 and 11), you can see that cars start their turns right at the crosswalk so they can go into other lane on Pine. This should be included in the design of the bump outs (even the shorter range painted ones).
  
6. The US Mail boxes in front of the insurance business on the W side of 12<sup>th</sup> gets used more than I thought. They are right by the crosswalk and people pulling up to drop off mail do complicate the use of the crosswalk. Boxes also hide the business (sub-optimal). Discuss a better place for these Mail Boxes.

## Observations – C St and 13<sup>th</sup>

A simpler intersection with fewer issues.

- a) There is more traffic going S in the evening than in the morning/mid-day. Makes sense.
- b) Very few cars turn right W bound onto C St. Makes sense.
- c) The number of pedestrians are much lower here than at Pine and 12<sup>th</sup>. Most along the W side of 13<sup>th</sup>. Not very many bikes here either. Some using sidewalk, but highest number seen are just crossing 13<sup>th</sup>.
- d) One of the biggest risks is that cars crossing 13<sup>th</sup> to get to 12<sup>th</sup> have to zoom across the intersection.
- e) There is a good long sight line looking North to traffic that helps pedestrian crossers of 13<sup>th</sup>. Still can see times when cars do not stop. (CS.O1.2:19)
- f) Fewer jaywalkers (given camera is looking N from C St). From my previous observations, cars parking on the E side in the two blocks S from here often jaywalk to get to the restaurants on the W side of the St. Example of one such crossing. (CS.O11.6:57)

## Observations – Taylor St and 13th

Busier than C St, but basically well behaved.

- a) More bicycles – mostly crossing W bound at Taylor.
- b) Pedestrian traffic is pretty low, a mix of S bound on W side and crossing 13<sup>th</sup> which is the highest risk element in the intersection. (TS.S28.0:39), (TS.S28.3:58), (TS.O1.9:28). Videos do not the MUCH more dangerous crossing after dark where visibility here is terrible and cars coming up the hill rarely stop.
- c) The bump outs did provide a safe place for pedestrians and I think that bump-outs added here would be high in value.
- d) Pedestrians did use the E-W crosswalk added for the festival (and I did not see jaywalkers prior)
- e) The number of W bound cars queuing on Taylor to cross or turn on 13<sup>th</sup> is huge – often 5+.

---

## Cross References to video clips referenced in the observations above, sorted by video/time.

(PS.S28.1:13)	bike wiggle
(PS.S28.1:57)	wiggle causing issues with pedestrians crossing Pine
(PS.S28.3:59)	cars doing wiggle close calls with pedestrians
(PS.S29.2:09)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PS.S29.2:27)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PS.S29.3:17)	jaywalkers crossing 12 <sup>th</sup> near Pine
(PS.S29.4:01)	cars doing wiggle close calls with pedestrians
(PS.S29.4:20)	cars doing wiggle close calls with pedestrians
(PS.S29.4:33)	wiggle causing issues with pedestrians crossing Pine
(PS.S29.6:07)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PS.S29.9:51)	bike wiggle
(PS.S29.14:08)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PS.O1.0:11)	bump out at Pine and 12 <sup>th</sup> complicating a left turn
(PS.O1.0:12)	bike wiggle
(PS.O1.10:49)	bump out at Pine and 12 <sup>th</sup> complicating a left turn
(PS.O4.2:25)	jaywalkers crossing 12 <sup>th</sup> near Pine
(PS.O11.1:14)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PS.O11.1:33)	wiggle causing issues with pedestrians crossing Pine
(PS.O11.1:37)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PS.O11.2:44)	jaywalkers crossing 12 <sup>th</sup> near Pine
(PN.S29.9:52)	bike S-bound wiggle
(PN.O1.0:14)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PN.O1.0:17)	wiggle causing issues with pedestrians crossing Pine
(PN.O1.2:20)	car cheating out through crosswalk on Pine prior to turning right
(PN,O1,3:50)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PN.O1,10:29)	bump out at Pine and 12 <sup>th</sup> complicating a left turn
(PN.O4.1:05)	wiggle causing issues with pedestrians crossing Pine
(PN.O11.5:03)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PN.O11.10:23)	12 <sup>th</sup> St crosswalk at Pine being difficult
(PN.O11.12:26)	12 <sup>th</sup> St crosswalk at Pine being difficult
(TS.S28.0:39)	pedestrians crossing 13 <sup>th</sup> at Taylor
(TS.S28.3:58)	pedestrians crossing 13 <sup>th</sup> at Taylor
(TS.O1.9:28)	pedestrians crossing 13 <sup>th</sup> at Taylor
(CS.O1.2:19)	pedestrians crossing 13 <sup>th</sup> at C St.
(CS.O11.6:57)	jaywalkers crossing 13 <sup>th</sup> at C St.

## Long Term Demonstration Project – Possible Intersection Safety Focus Areas

A possible near term, ODOT approved demonstration project for enhanced pedestrian safety in the Heights is a great idea and should be pursued. The idea is that use of simple updates will make things safer, and provide good feedback for the larger Heights master planning process. The following are my recommendations for consideration in this demonstration project.

1. Simply repaint the current crosswalks throughout the area. These are marked with the solid red lines  in the diagram.

Enhancements at intersections with Red Circles in the diagram. Only slightly more complicated. In order of my assessment of importance.

2. Pine and 12<sup>th</sup>. Enhanced crosswalk with painted bump outs just S of Pine. Possible new 12<sup>th</sup> St crosswalk at Taylor. New NS crosswalk paint across Pine and Taylor.
3. Taylor and 13<sup>th</sup>. Enhanced crosswalk with painted bump outs. It would be Great to add some lighting on this intersection as well (if it had a light like at State St and 9<sup>th</sup>, it would be much safer).
4. Wilson and 12<sup>th</sup>. This is another intersection feeding many homes to E and W so it is quite busy and crosswalks need enhancements. Consider crosswalks on all four edges and bump outs.
5. A St and 13<sup>th</sup> St. Busy intersection. New paint on N-S crosswalks and an enhanced crosswalk with bump-outs across 13<sup>th</sup>. Review whether parking on NE corner is blocking view-lines from A St turning S.
6. B St and 13<sup>th</sup>. New paint on all crosswalks. Feedback has been received that parking on NE corner is blocking view-lines from B St turning S – define a no parking zone, paint curb, etc. Maybe enhanced walk across 13<sup>th</sup> at Ice Cream place.

