FURNACE 2 FURNACE
ELIZA FURNACE TRAIL TO CARRIE FURNACE

Supplement to Report on Bicycling (and pedestrian) Improvements at Brady St, Frazier Bridge, and Ramp at 2nd & Greenfield

Mary Shaw and Roy Weil, April 2019

This note updates the original report prepared for the Second Av Corridor Multimodal Study by Mary Shaw and Andrew Krizman with ideas that emerged after the submission and publication of that report. It adds new ideas about connecting the Eliza Furnace Trail (EFT) to the top of Brady St, it reinforces a suggestion about the Frazier St Bridge, and it adds new ideas about connecting Eliza Furnace Swinburne Trailhead to Hazelwood Green.

Connecting Eliza Furnace Trail to the top of Brady St

We previously suggested connecting EFT to Brady St by via the existing (currently unpaved) ramp on the south side of EFT MP145 to the corner of 2nd & Brady, then ramping back north along Brady St. From there the existing sidewalk can be improved to offer access to the southbound on-ramp and (using the pedestrian cycle at the traffic light) access from the northbound off-ramp.

Closer inspection suggests an easier alternative. EFT here is not much lower than the Forbes Av end of Brady St. A straight, level(ish) ramp from the north side of EFT to the top of Brady St – or to Forbes Ave between the Birmingham Bridge ramps – would eliminate the descent to 2nd Ave and the climbing, longer, sinuous ramp needed to connect via Brady St at 2nd Av.

Even more aspirational would be *two* ramps from EFT, one convenient to the northbound off-ramp of the Birmingham Bridge and one convenient to the southbound on-ramp.

Figure S-1 shows the Birmingham Bridge and its ramps approached westbound on EFT. Figure S-2 shows the view from the EFT bridge over Brady St. The ramp would go from the trail near this location, under the parkway, to connect with Forbes (at the top of Brady St, obscured by the Parkway in this view).

Figure S-1 Approaching the Birmingham Bridge on EFT

Figure S-2. View from EFT under NB Birmingham Bridge ramp to Forbes, looking up Brady St

Further on the Frazier Bridge

The report on the Second Av/Irvine St/Greenfield Av/Saline St Intersection, to which this is a supplement, identified the Frazier Bridge (aka Swinburne St Bridge) renovation as a prime candidate for improving the intersection, provided bike/ped connections are included in the renovation.

Connecting the Swinburne St end of the Frazier Bridge to both EFT trailhead and the Junction Hollow Trail in a way that's appealing to cyclists and pedestrians could divert a very substantial amount of bicycle traffic from the Second Av/Irvine St/Greenfield Av/Saline St Intersection and the problematic "Chute" along Second Ave. An important element of making this appealing to cyclists is avoiding the perception of climbing a big hill.

We suggested at the end of the discussion (p.14) that the trail could be hung underneath the Frazier Bridge. Upon further reflection, including viewing the bridge from the EFT Swinburne trailhead, we are convinced this is a good idea. At a rough guess, it looks like going under the bridge could save 20' of climb. That's nothing in a car, but it's much more daunting to casual cyclists. In addition to the reasons given previously (cyclists would not have to cross traffic on Greenfied/Frazier; the lower elevation would require shorter ramps), we also recognize that for the EFT-junction Hollow connection, the extra climb could be a deterrent.

In other words, we are trying to entice casual cyclists off the streets. These are the very cyclists who might choose the Chute over climbing a hill. If the Frazier crossing is perceived as more-or-less the same elevation at the EFT trailhead AND a road crossing is not required, then it's easy to choose the climb to the Frazier bridge over the Chute and steep climbing turn into the trailhead.

Connecting Eliza Furnace Trail to Hazelwood Green and Junction Hollow

The connections here are unfamiliar to many people, so Figure S-3 notes the locations of the features.

A major objective for Second Ave improvements is providing ways for cyclists to avoid the Irvine/Greenfield/Second/Saline intersection (here called the IrvGreen2 Peril) [P]. We previously suggested a trail bridge across Second Ave to connect the EFT Trailhead [H] to Hazelwood Green [L]. That would be the preferred connection from EFT. In order for that connection to serve traffic from Junction Hollow as well, the Frazier St Bridge [F] rehab would have to provide a good connection from Junction Hollow [J] to the EFT Trailhead (the alternative being to leave that bicycle traffic passing through the Chute [P] to reach EFT Trailhead and with a dubious connection across the intersection into Hazelwood Green [L]).

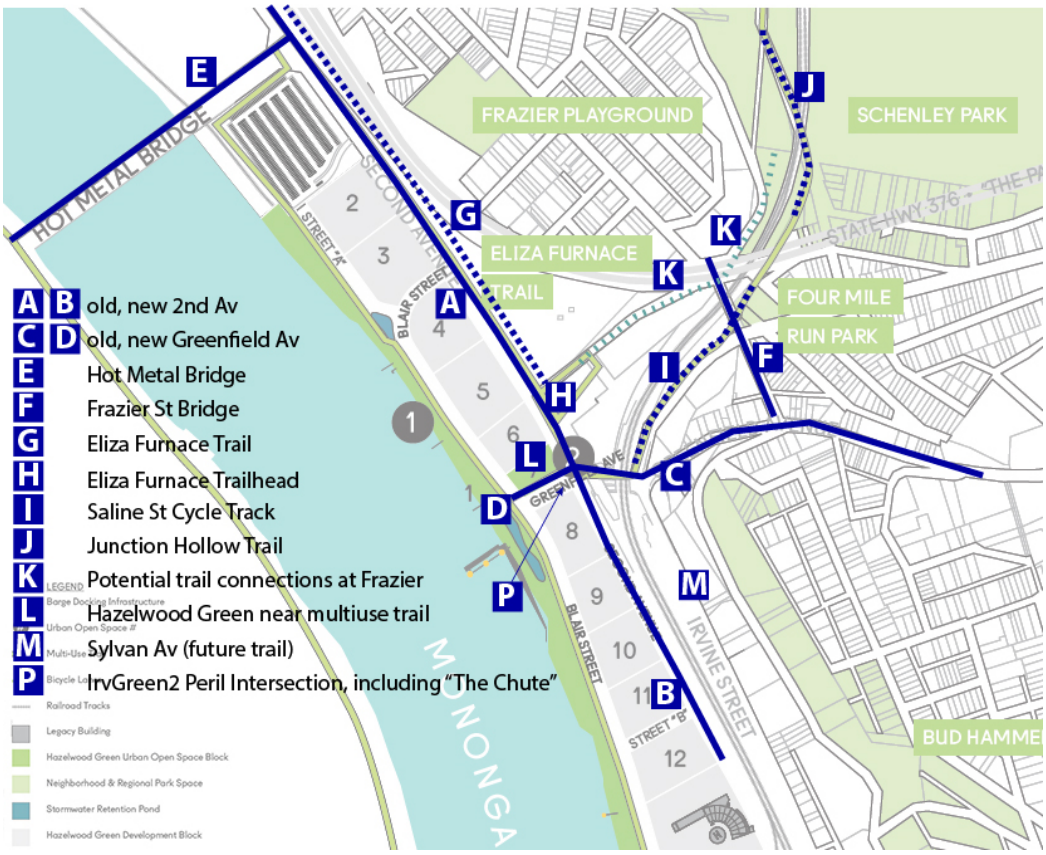

Figure S-3 Roads and trails near IrvGreen2 Peril intersection

If a flyover bridge from EFT Trailhead [H] into Hazelwood Green [L] proves infeasible, there may be a way to connect EFT Trailhead [H], Junction Hollow [J], and Hazelwood Green [L] with a ramp from Second Ave to the former RR grade adjacent to the current EFT trailhead. Figure S-4 sketches this possibility. It returns to the ramp concept from the original Almono plan, except that it uses a switchback ramp so the (assumed) traffic light at Second and Greenfield [P] would provide protection for the Second Ave crossing. If this plan were chosen, it would make sense to move the green space in Hazelwood Green from just north of the new extension of Greenfield [D] over to the south side of Greenfield, since the trail connection to 2nd Av runs through that green space. We note that a bike/ped crossing of the older (northern) leg of 2nd Av [A] is problematic, because that leg carries traffic from Irvine St and the old leg of Greenfield Av [C] as well as the new leg of 2nd Av [B] in Hazelwood Green.

Idea: Ramp up from 2nd Av to RR bridge, relocate multi-use trail from block 7 to block 8 connect trail across RR bridge to EFT trailhead

Base: HG plan map with round "2" patched out

- Switchback ramp inspired by Almono plan
- Re-routed multiuse trail
- Crosswalk
- No-longer-necessary multiuse trail

Pros:

- Gets most traffic out of the Chute and eliminates climbing turn into EFT
- Connects H-G to EFT

Cons:

- Crosswalks required from EFT to both H-G and Saline (safe with no-right-on-red?
- Does not get bikes from Saline off the sidewalk

Considerations:

- Need space at bottom of ramp to wait for light
- Multiuse trail must cross 2nd somewhere, farther south it needs 180 at ramp
- Could flop blocks 6/7 with block 8 to keep trail in greenspace
- Any connection from H-G to EFT requires crossing 2nd; other places need bridge

Figure S-4: Ramp alternative for connecting EFT Trailhead to Hazelwood Green..

In the near term, the principal reason for a connection here (either a flyover or a ramp) is to serve cyclists connecting with the very heavily-used Junction Hollow Trail [J] via the Saline St cycle track [I] (to avoid the chute. In addition, until the Hot Metal Bridge [E] connection no longer requires an extremely short U-turn and a dangerous road crossing, this will support significant traffic between Hazelwood Green [L] and points north and west via the Eliza Furnace Trail [G].

For bicycle traffic between Junction Hollow [J] and EFT [G] in the near term, the ramp proposed in Figure S-4 would eliminate the need for the Chute, but there would still remain the sidewalk under the RR (connecting the Saline St cycle track [I] to the 2nd Av/Greenfield intersection and a crossing of old Greenfield [C] at that intersection to reach the ramp and the EFT trailhead [H]. Bicycle traffic between

Junction Hollow [J] and Hazelwood Green would face an additional crossing of 2nd Av for traffic at this intersection, but it would be on the new leg [B] rather than the busier old leg [A]. We assume that this light would have a cycle for traffic going straight (both directions) on 2nd to facilitate the Greenfield crossing and a cycle for traffic going under the bridge on Greenfield to facilitate the new 2nd Av crossing [B]. Although the crosswalks are not desirable, the crosswalk at Grant St works, and this seems preferable to the Chute and the steep climbing turn in the current configuration

Eventually, after the Frazier bridge renovation provides a traffic-free connection between Junction Hollow [J] and Eliza Furnace Trailhead [H], that project will (hopefully) divert most of the traffic headed for Hazelwood Green out of the IrvGreen2 Peril intersection [P], except for the crossing of new 2nd Av [B]. Further, assuming that the Sylvan Av trail [M] is developed, that traffic will also flow through the EFT Trailhead. For these cyclists, connecting to Hazelwood Green [L] at the Hot Metal Bridge [E] would take them a mile out of the way, and many or most would continue to connect through the IrvGreen2 Peril [P]. If the Hot Metal Bridge connection is not substantially improved, EFT traffic would also continue to brave the Chute and the Peril

For bicycle traffic between EFT [G] and Hazelwood Green [L] the ramp would be less desirable than the bridge over 2nd Ave because of the crosswalk across new 2nd Ave [B] at the bottom of the ramp.

One might consider instead building the ramp on the Pittsburgh side of the 2nd/Greenfield intersection as a straight ramp from the intersection up to the EFT Trailhead. This would result in a more challenging crossing of 2nd Av because of the likely traffic patterns and the difficulty of creating a reasonable landing/waiting area at the bottom of the ramp.