

# LaHarpe Undercrossing for Southwest Trail

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## Introduction/History

The City of Little Rock has been working to create its portion of the Southwest Trail from Little Rock to Hot Springs for years. In 2008, Union Pacific and the City of Little Rock Parks and Recreation discussed what design considerations would make Union Pacific comfortable with the trail from a safety perspective. Union Pacific's area of concern was focused on the zone between the Medical Mile and Garland St., hereafter the "LaHarpe Undercrossing" (Fig. 1). Since 2008, new studies have considered rails-with-trails project safety and progress on the Southwest Trail has continued. The City of Little Rock has recently developed a new design for the Southwest Trail at the LaHarpe Undercrossing we believe meets or exceeds the safety concerns expressed by UP in 2008. We believe it is time to reengage in this discussion for the health<sup>1</sup>, safety, transportation equity, and economic development<sup>2</sup> of our city.

Since 2008, additional data regarding the safety of rails-with-trails projects has been published. In September 2013, the Rails to Trails Conservancy completed their America's Rails-with-Trails report, a 20 year study considering 161 rails-with-trails projects in the United States.<sup>3</sup> Their key finding was that "rails-with-trails are safe, common, and increasing in number." Safety histories within these projects, 28% of which are along Class I railroads, are exceptional with only one fatality and two injuries reported in 20 years over all projects.<sup>3</sup> Considering the frequencies of injury and death on railroad right-of-way *without* a rails-with-trails project, these projects can actually increase safety by providing a space for people to walk in these corridors other than the tracks themselves.<sup>1</sup>

Since 2008, there has also been considerable movement on the Southwest Trail project. In 2015, ALTA Planning completed the Southwest Trail Corridor & Economic Impact Study considering the entire trail route and its impact.<sup>4</sup> In May 2016, Mayor Stodola, BACA President Mason Ellis, and I completed an on-the-ground survey of the ALTA-proposed trail corridor from the Arkansas River Trail to Interstate Park. In August 2016, at the request of Mayor Stodola, I considered the route at a finer scale from the Arkansas River Trail to Interstate Park and shared my report with Union Pacific.<sup>5</sup> Shortly thereafter, the concept was rejected by three Union Pacific representatives. In January 2017, I completed an even more detailed consideration of the route from the Arkansas River Trail to Central High (which we dubbed the "Central High Corridor") to share with stakeholders and in preparation to request Federal Lands Access Program funding.<sup>6</sup> In February 2017, this route was rejected by Union Pacific, citing safety concerns and a desire to allow future Union Pacific system expansion.

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<sup>1</sup> <https://www.littlerock.gov/for-residents/bikeped-little-rock/why-bikeped/health/>

<sup>2</sup> <https://www.littlerock.gov/for-residents/bikeped-little-rock/why-bikeped/economic-investment/>

<sup>3</sup> [https://www.littlerock.gov/media/3332/rwtplusreport\\_final\\_103113.pdf](https://www.littlerock.gov/media/3332/rwtplusreport_final_103113.pdf)

<sup>4</sup> [https://www.littlerock.gov/media/1373/150724\\_southwest-trail\\_final-report.pdf](https://www.littlerock.gov/media/1373/150724_southwest-trail_final-report.pdf)

<sup>5</sup> <https://www.littlerock.gov/media/3320/little-rock-southwest-trail-proposal-august-2016-5.pdf>

<sup>6</sup> <https://www.littlerock.gov/media/1863/little-rock-southwest-trail-proposal-jan-6-2017.pdf>

Southwest Trail developments have occurred since February 2017. Garland, Saline, and Pulaski counties were together awarded \$2.6M Federal Lands Access Program (FLAP) funding to design and engineer the Southwest Trail from Hot Springs to Central High School in Little Rock. The City of Little Rock was also awarded \$1.6M FLAP funding for Phase One of a three phase project to build the Central High Corridor.<sup>7,8</sup> Since then, the City of Little Rock and dedicated citizens have been working to address the safety and system expansion concerns of Union Pacific. This report details the work done in the area of the LaHarpe Undercrossing.

## **New LaHarpe Undercrossing Concept**

Union Pacific's strongest concern regarding the Southwest Trail may be the proximity of the proposed trail to active track in the vicinity of the LaHarpe Undercrossing (Fig. 1). This area was the closest setback reported in the January 2017 proposal and the focal area discussed in 2008. City of Little Rock staff have considered this area in greater detail in an effort to address those concerns. Though it would add substantial cost to the project, we are considering a route that would take the trail in between the eastern LaHarpe Bridge abutment and the eastern LaHarpe Bridge pillars (Fig. 2).

To be clear, this is only a design option being explored by City of Little Rock staff. Even with Union Pacific approval of this route, the City is not resolved to build the Southwest Trail in this space. We cannot fully appreciate the additional expense, the difference in user experience, and potential user vs. infrastructure safety concerns without engineering the facility. That engineering will require an on-site survey to obtain more detailed measurements. Before conducting that survey, we would like to meet with Union Pacific and obtain an easement so that we know we are not wasting our resources in conducting the survey and we have permission to access the area.

### **Addressing Union Pacific Concerns**

This design option would address several concerns expressed by Union Pacific:

- 1) *Maximize Setback*: This route would increase the setback in the LaHarpe Undercrossing, from the 24 ft. closest setback proposed in our January 2017 proposal<sup>4</sup> to approximately 32.5 ft. closest setback (Fig. 3 vs. 4). A more rigorous survey will provide more exact setback measurements. A 32.5 ft. setback compares very favorably with national averages of rails-with-trails setbacks (Fig. 5).
- 2) *Physical Barrier (Pillars)*: The LaHarpe Bridge pillars would be between the active track and the trail under the bridge itself (Figs. 6 & 7). In the unlikely event of a derailment, a derailed train would literally have to collapse the LaHarpe Bridge before harming trail users in this area, an incident that would be even less likely after our proposed retaining wall and earth are added under the bridge (see below).
- 3) *Physical Barrier (Wall)*: In a letter from Union Pacific's Kevin Kohler to the City of Little Rock on August 7, 2008, Union Pacific requested a six foot high crash wall between the tracks and a trail (Fig. 1). This design would exceed that requirement. It would build a wall approximately 10 ft.

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<sup>7</sup> <https://www.littlerock.gov/media/1862/clr-flap-application-support.pdf>

<sup>8</sup> <https://www.littlerock.gov/media/3321/flap-press-release.pdf>

high at the LaHarpe Undercrossing and sloping downward on either side (Figs. 4 & 8). This wall would withstand an impact from a derailed train much better than the proposed 6 ft. wall because, instead of empty space/a trail behind the wall, there will be solid earth.

- 4) *Different Grade:* The wall in this design would not simply be a crash wall, but a retaining wall creating a level surface for the trail above the track grade. Trail users would be better protected relative to a crash wall both because of the superior strength of a retaining wall and because the force of a derailed impact would be focused below them rather than at their elevation. The trail would be 10 ft. above grade under the bridge and would slope down on either side (Fig. 4). The trail would never be at track grade north of the LaHarpe Bridge in the vicinity of active tracks and would only match track grade south of the LaHarpe Bridge after the setback was 50 ft. or more (Fig. 4).
- 5) *No Capacity Expansion Issues:* A trail in this location would not affect Union Pacific's ability to add tracks in the future because a track would not fit between the LaHarpe Bridge eastern abutment and the LaHarpe Bridge eastern pillars.

### **Measurements**

All measurements are approximate. A Union Pacific-approved survey would allow us to take more exact measurements and do the preliminary engineering required to better consider the merits of this design.

#### *LaHarpe Undercrossing Trail Width*

There are two sets of two pillars on the eastern end of the LaHarpe Bridge (Fig. 1). The northern set of pillars is closest to the eastern abutment, approximately 17' 10" for the northern-most pillar and 17' for the other pillar. This creates the narrowest point between the abutment and the pillars. The southern set of pillars is approximately 24' from the abutment. While trail minimum standards call for an 18' right-of-way for the entire trail, allowing for a 12' wide paved trail and a three foot level zone on either side, channelized trail widths (e.g. a bridge) are often 16' or less (including all of the channelized trail widths proposed for this project in Figure 4). A 17' right-of-way work in the undercrossing is sufficient (Fig. 8).

#### *LaHarpe Undercrossing Trail Height*

Even after a retaining wall is built and earth fills in this space, there will be approximately 15 ft. of height clearance (Figs. 7 & 8).

#### *Retaining Wall Along Eastern Pillars*

The earth and rock currently against the LaHarpe Bridge eastern abutment are structurally required. In order to create a level surface between the abutment and the pillars, a retaining wall approximately 7 ft. high will be built on top of the existing 3 ft. wall associated with the pillars and we will fill in the space with earth to create the Southwest Trail approximately 10 ft. above the grade of the tracks (Figs. 7 & 8).

#### *Pipeline Support*

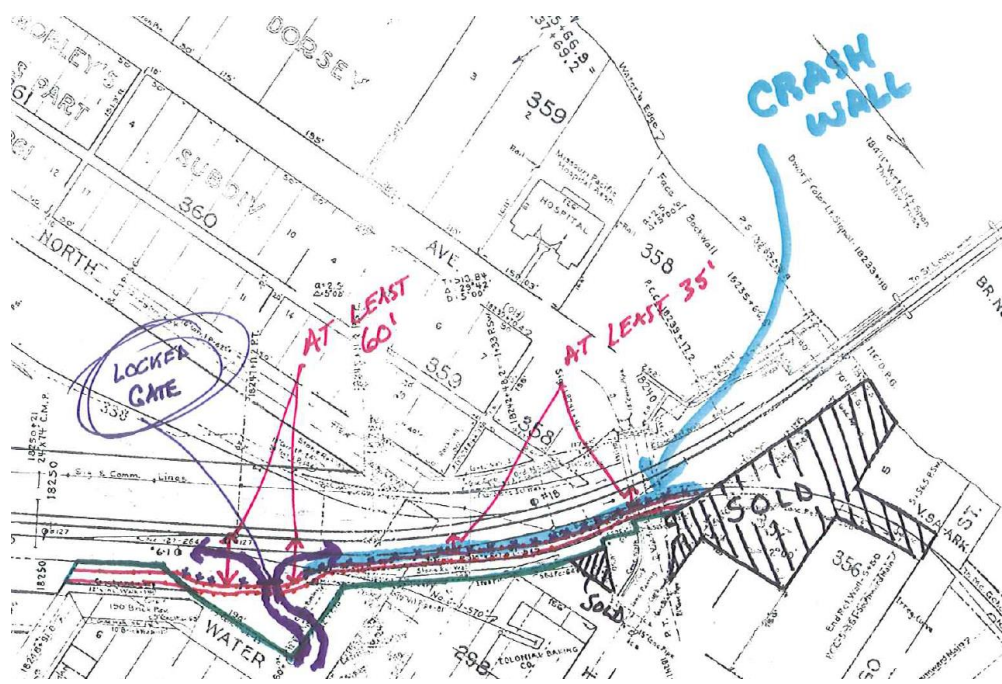
Within 10 ft. of the northern exit of the proposed LaHarpe Undercrossing, there is a cement and earthen support for the pipeline suspended immediately north of the LaHarpe Bridge (Figs. 2 & 6). This will likely cause the trail to turn west a few feet before gradually losing its 10 ft. of elevation to be at-grade with the train tracks after the setback exceeds 50 ft. (Figs. 4 & 6).

## Next Steps

The City of Little Rock, with contributions from Little Rock volunteer residents, has made considerable efforts to address Union Pacific's concerns at the LaHarpe Undercrossing. The design option considered here would devote much more time, effort, and capital to this undercrossing to address Union Pacific's concerns than the City had originally. The City requests a meeting with Union Pacific to discuss this new proposed LaHarpe Undercrossing route and the entire Southwest Trail corridor between the Arkansas River Trail and Central High School. This will allow us to identify any other specific points in the proposed trail route that Union Pacific has concerns so we have the opportunity to address those as well. If/When the City is able to obtain an easement from Union Pacific, we will use our resources to conduct a more detailed survey of this area to allow us to engineer the LaHarpe Undercrossing.

The Southwest Trail concept is not going away. Little Rock, Hot Springs, and all of the communities in between have devoted a great deal of time, energy, and capital to conceptualize this trail. It is important for our health, transportation, livability, and economy. Since obtaining Federal Lands Access Program funding, Garland, Saline, and Pulaski Counties and the City of Little Rock now have an additional responsibility to that funding agency to do everything in our powers to obtain the requisite easements to complete this trail. Thank you for your time and attention.

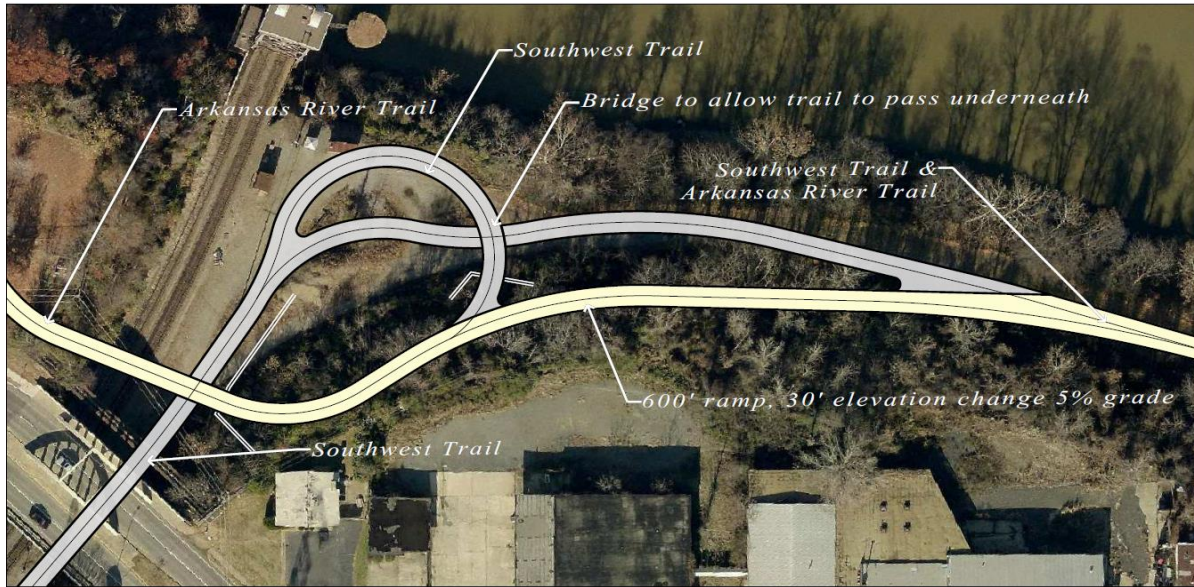
## Figures



**Figure 1.** Design elements requested in an August 2008 letter from Union Pacific to the City of Little Rock at the LaHarpe Undercrossing. We believe the proposed design has the potential to meet or exceed what Union Pacific has requested.



**Figure 2.** A trail between the eastern LaHarpe Bridge abutment and the eastern LaHarpe pillars (red circle) would give every possible allowance to Union Pacific safety and expansion concerns.

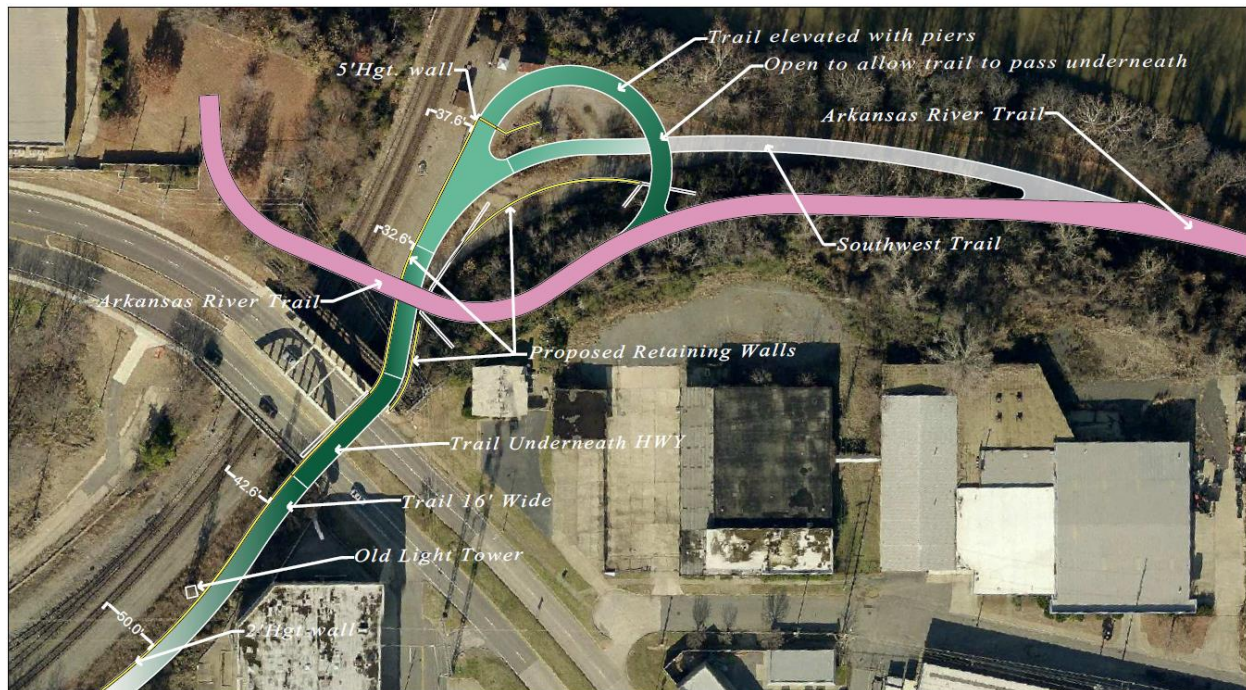


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### Southwest Trail Arkansas River Trail Connection Concept

Scale: 1" = 60'

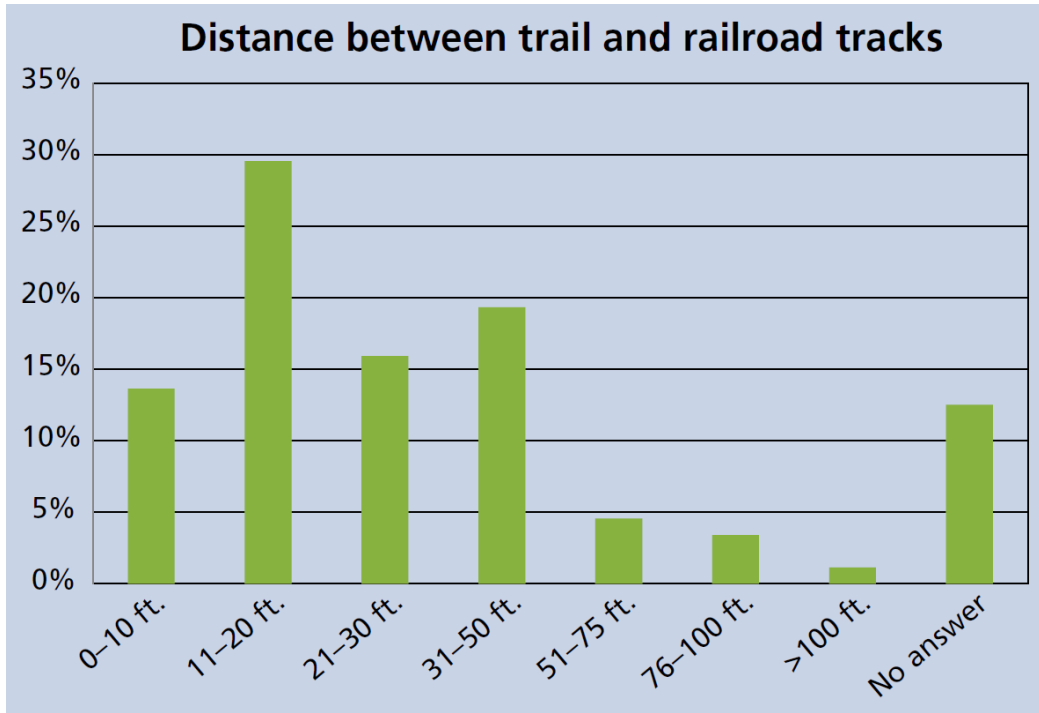
**Figure 3.** This is the figure in the January 2017 Central High Corridor report. Note the proximity of the previously proposed trail to the active track in the lower left corner of the figure. Figure by Leland Couch.



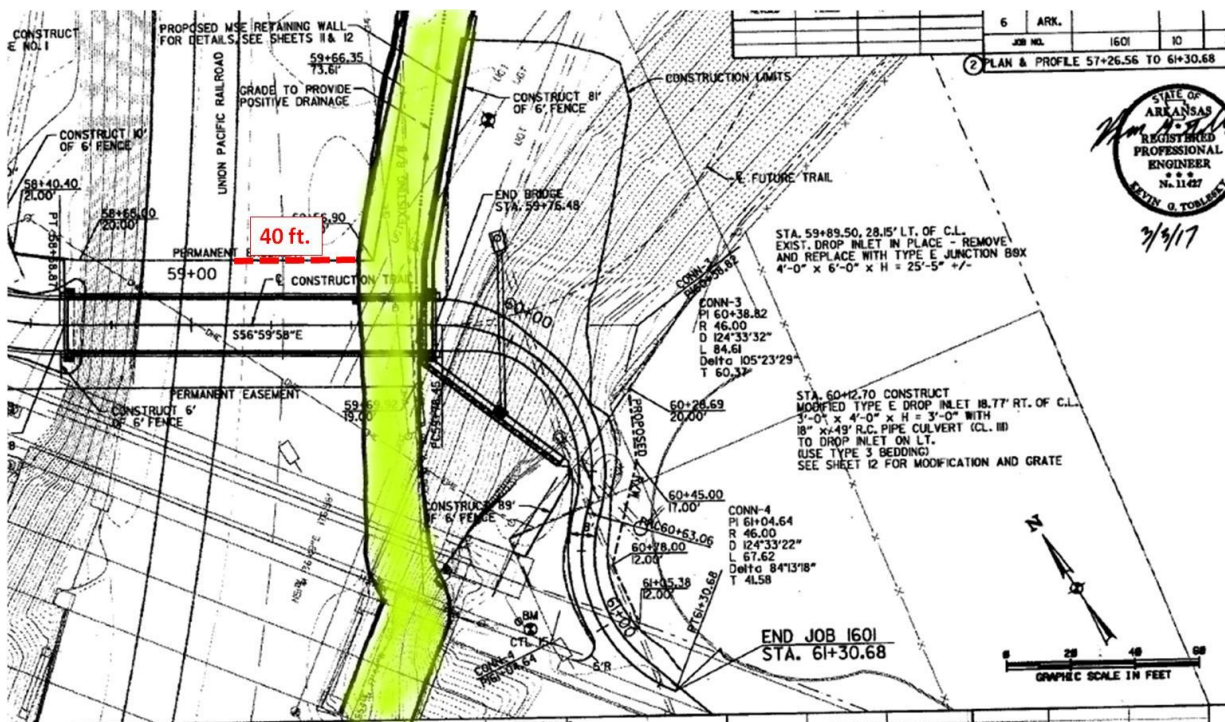
### Southwest Trail Arkansas River Trail Connection Concept

Scale: 1" = 60'  
 Arkansas River Trail  
 Southwest Trail  
 Retaining wall  
 Trail Elevation  
 0' 5' 10'

**Figure 4.** This is the modification of the proposed route due to Union Pacific concerns. Note the change in the proximity of the proposed trail to the active track relative to Figure 2. Figure by Leland Couch.



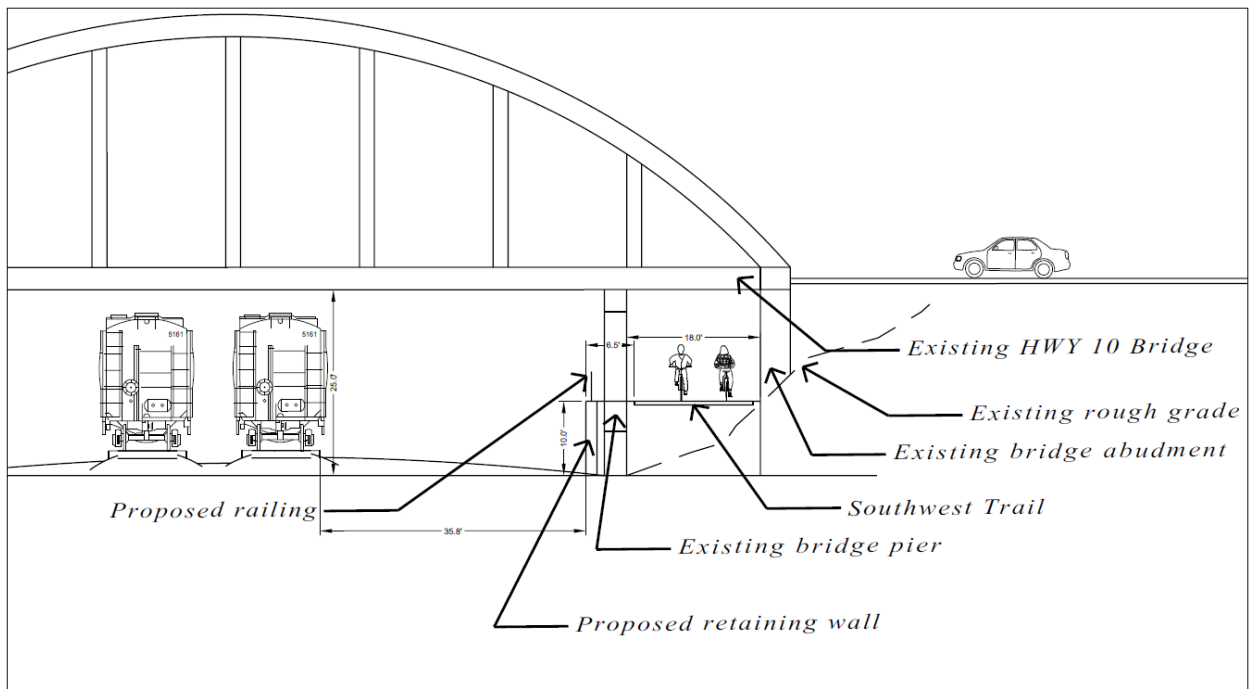
**Figure 5.** The City of Little Rock is proposing a trail route that rarely comes within 50 ft. of an active track. As America’s Rails-with-Trails reports, this distance is very conservative relative to other rails-with-trails projects in the United States.



**Figure 6.** This trail route would create a setback of ~40 ft. at its closest (red dotted line). At this point, the trail will still not be at grade with the tracks. Note that, due to structural supports of the pipeline suspended immediately north of the LaHarpe Bridge, the trail will immediately turn west exiting the LaHarpe Undercrossing in the north. All measurements are approximate.



**Figure 7.** We will extend the 3 ft. wall associated with the pillars approximately 7 ft. higher to create a level platform for the trail approximately 10 ft. higher than the grade of the tracks. The man standing at the top of the picture is approximately standing at the trail's proposed grade.



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### Southwest Trail

Arkansas River Trail Connection Concept

Scale: 1" = 10'  
Date: 11.17.17

**Figure 8.** Cross-section of the proposed LaHarpe Undercrossing with approximate measurements. Figure by Leland Couch.