

Little Rock Monroe Street Walking Action Plan

America Walks-Arkansas State Walking College

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Executive Summary

This Walking Action Plan (Plan) proposes changes in and along Monroe Street between 7th Street and Markham and to the Markham and Monroe intersection (Fig. 1). The Plan will create a safe and healthy environment to the Arkansas Department of Health (ADH) employees and colleagues, War Memorial Stadium visitors, University of Arkansas Medical School (UAMS) employees, and users of Little Rock's emerging Light Individual Transportation (LIT) network. The Plan creates pedestrian access along Monroe and to crosswalks via Phase Four of the [Jonesboro Children's Trail](#). It calms traffic on Monroe via a 4-to-2 road diet and creates safer Monroe crosswalks. The Plan creates 42 additional, much-needed parallel parking opportunities on Monroe while retaining the ability to stack four lanes of traffic for War Memorial events. It creates a safe crossing of Markham Street for the Jonesboro Children's Trail, visitors of War Memorial Stadium, Rock Region Metro users, and UAMS and ADH employees.

Pedestrian Access Along and Across Monroe: The Need

Existing Conditions: Monroe Street is considered a Residential Street on the CLR Master Street Plan, however it is overbuilt for this designation. It is a four-lane, 46' wide street with some parallel parking allowed on the east side and none on the west side. Monroe has a posted 30mph speed limit. Monroe has low average daily traffic, but due to War Memorial Stadium events, peak traffic capacity needs are high.

Pedestrian Corridor along Monroe: There is no continuous sidewalk corridor on either side of Monroe between 7th and Markham. There is a sidewalk along the east side of Monroe for ~430 lin. ft. immediately south of Markham, and sidewalks along the ADH campus. These sidewalks allow a limited degree of north-south pedestrian movement on Monroe's east side, but pedestrians on the west side of Monroe must either walk in the parking lot or in uneven grass along Monroe. Without a sidewalk, transit users have difficulty accessing War Memorial Stadium, the Jim Daily Fitness Center, and the Zoo. ADH and UAMS employees have difficulty accessing Monroe crosswalks and ultimately their offices. Jonesboro Children's Trail users have difficulty going through this corridor.

Crosswalk #1: Located on the south side of the Markham and Monroe intersection, this crosswalk is unmarked at the junction of two four-lane roads (Figs. 1-2). It connects to a sidewalk along Markham with a ramp on the east side and the pedestrian loop with a ramp on the west side. This would be the crosswalk used by Rock Region Metro users to access ADH and ADH employees to get to Wendy's or Popeye's. Drivers are still required to yield to pedestrians at unmarked crosswalks, but pedestrians have no idea which drivers know that law or will comply with it.

Crosswalks #2-#4: On a typical weekday, War Memorial Stadium surface parking fills to capacity with ADH and UAMS employees (Fig. 1). Employees must access offices to the west (Fig. 1). This connection is made via the three marked midblock crosswalks or shuttle service.

These crosswalks are considered unsafe by users due to vehicular speeds and low crosswalk yield compliance (personal communication). All three Monroe midblock crosswalks have accessibility issues as well. A lack of any sidewalk corridor on the west side of Monroe creates accessibility challenges. Crosswalk #2 has no truncated domes on the west side ramp. On the east side, getting out of the traffic lane requires making a sharp 90 degree turn to the left or right, complicated by a retaining wall five feet from the curb (Fig. 3). If a user with a mobility device

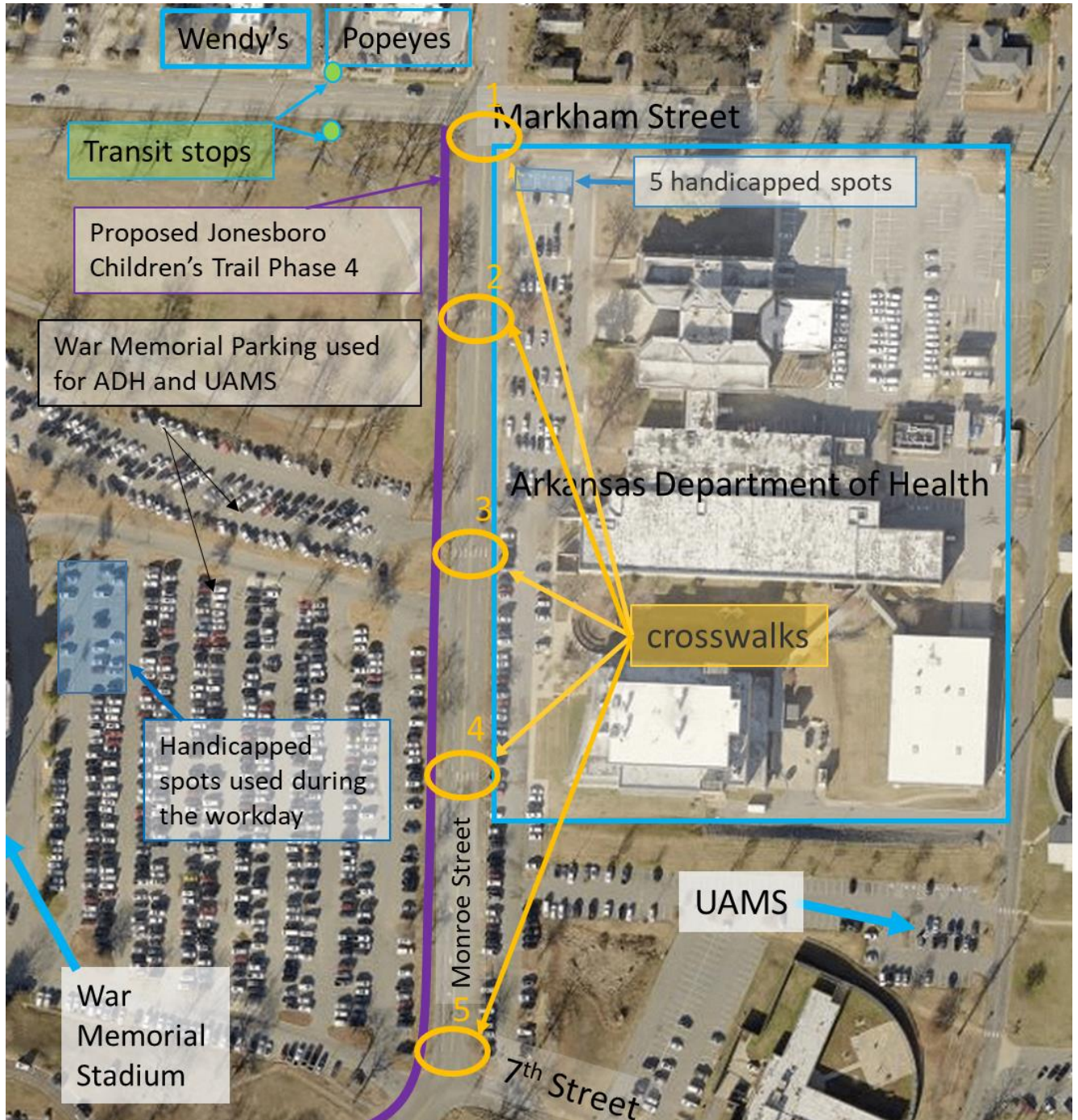


Figure 1. Overview of the Plan scope of work. Crosswalks are numbered for later reference. Note the high weekday use of War Memorial Stadium for ADH and UAMS parking. Aerial photograph from pagis.org's [Land Ownership App](#).



Figure 2. Crosswalk #1. An unmarked crosswalk at the intersection of two four-lane roads ([Google Streetview, July 2016](#)).



Figure 3. Crosswalk #2, east side. Parallel parking is heavily used during the workday, but not used outside of working hours. During the workday, people often illegally park too close to the crosswalk, like these two cars, creating sightline/safety issues. Getting out of the crosswalk and onto the sidewalk may be challenging for someone with a mobility device. Outside of the workday, this puts them at risk of being hit ([Google streetview, Jan. 2019](#)).



Figure 4. Crosswalk #3. No curb ramps or sidewalks on either side. Note the car illegally parked too close to the crosswalk ([Google streetview, July 2017](#)).

has trouble making this turn, they are trapped in the travel lane and may be hit by a car. Crosswalk #3 has no curb ramps or sidewalks on either side of the crosswalk (Fig. 4). Crosswalk #4 has a sidewalk from the parking lot on the west side, but there is no break in parking to allow access to the sidewalk/crosswalk and no curb ramps either from the parking lot or the street (Fig. 5). It has no curb ramp or sidewalk on the east side of the street.

Crosswalk #5: This is an unmarked crosswalk at the intersection of Monroe and 7th Street. Marking a crosswalk here could be debated. There is no existing sidewalk along either side of 7th Street, so it would face the same criticism as the existing midblock Crosswalks 3 and 4. However, there are several reasons why this crosswalk is important. 1) The Jonesboro Children's Trail will create a pedestrian corridor on the west side, 2) This crosswalk is far enough from Crosswalk #4 that it has its own independent utility, 3) This would be the crosswalk that UAMS employees would use to get to their offices. Not only would using Crosswalk #4 be well out of the way for many War Memorial Stadium parking spots, it connects to no pedestrian infrastructure that would get the pedestrian to the 7th Street corridor, 4) This would be the crosswalk used for any overcapacity parking along 7th St. to War Memorial Stadium, 5) While not ideal, traffic on 7th Street is light. People could feel relatively safe walking against traffic on 7th Street vs. Monroe.



Figure 5. Crosswalk #4. No curb ramp or sidewalk on east side. No curb ramp on the west side. No break in War Memorial parking to allow access to the sidewalk. Note the car parked *in* the crosswalk. ([Google streetview, July 2016](#)).



Figure 6. Crosswalk #5. An unmarked crosswalk on the north side of the Monroe and 7th Street intersection. Crosswalk infrastructure here would increase yield compliance and physically prevent vehicles from parking illegally close to the crosswalk, like this Jeep ([Google streetview, October 2022](#)).

No parking zones by crosswalks are important to create sightlines between people walking (crossing) and driving, but these no parking zones are often ignored due to high parking demand (Figs. 3-6). Increasing crosswalk safety has the potential to increase the proportion of employees to walk from their cars to their offices (instead of using the shuttle), increasing physical activity and commute efficiency.

Safety: Monroe is a four-lane undivided road for the 1100 lin. ft. between Markham and 7th Street (Fig. 1). Four-lane roads are perhaps the [least safe street configuration to cross as a pedestrian](#). They induce higher speeds and speed differentials, they create a wide area of conflict between cars and people crossing, they offer no area of refuge from curb to curb, they reduce crosswalk yield compliance, and they create [Multiple Threat Crashes](#). Arkansas’s pedestrian and bicyclist serious injury and fatality rates have increased 73% over the past five years, 84% of those collisions occurred on Arkansas urban streets, and 83% on undivided four-lane roads (like Monroe and Markham, Fig. 7).¹

Showcase Infrastructure: Events held at War Memorial Stadium are major draws. For the many visitors who live outside of Little Rock, their impression of Little Rock’s livability will be made by the infrastructure immediately surrounding the stadium. Given all of the pedestrian activity generated by War Memorial Stadium, and the way the stadium’s parking lot is used by ADH and UAMS employees, infrastructure in this corridor is an embarrassment to Little Rock. Crosswalks from nowhere that lead to nowhere are difficult for visitors to understand and impossible for people with mobility challenges to use.

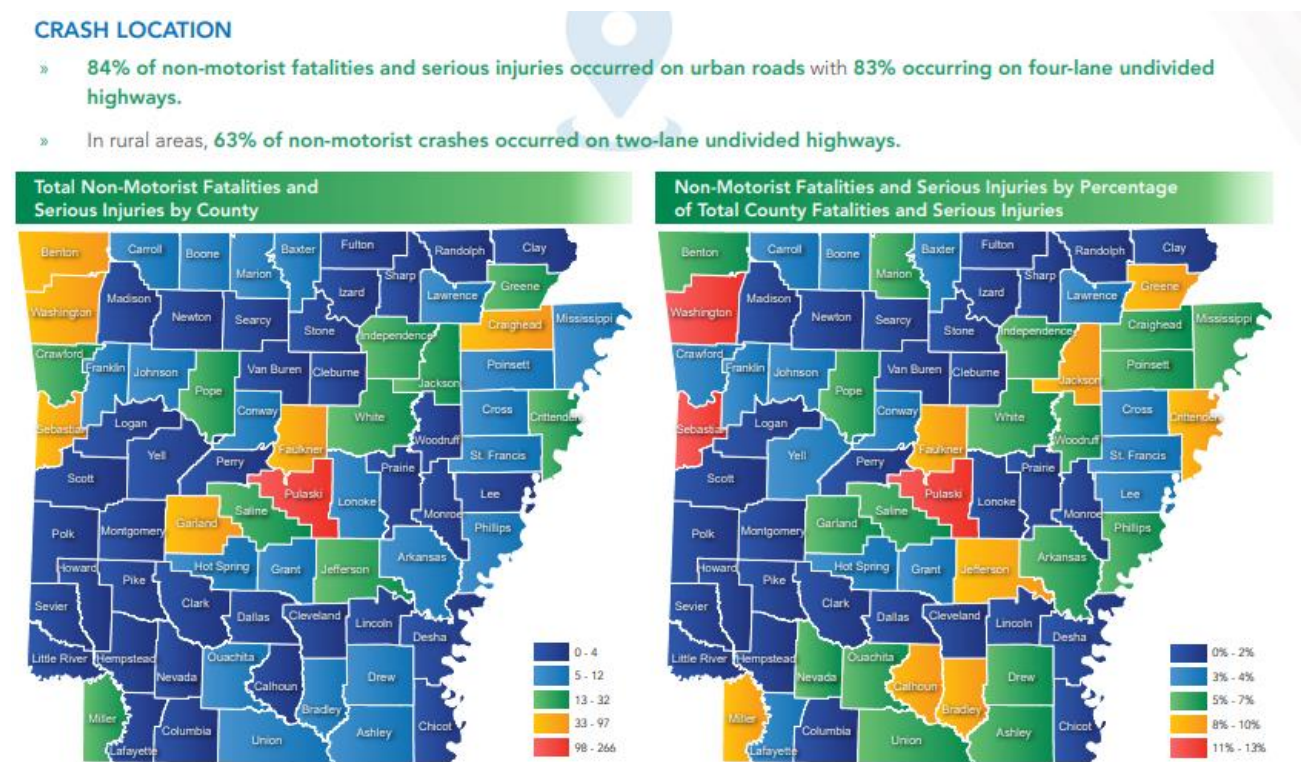


Figure 7. Pulaski County, in which the project is located, has the highest number of bicycle and pedestrian serious injuries and fatalities in Arkansas. [Arkansas Strategic Highway Safety Plan, 2022](#)

¹ [Arkansas Strategic Highway Safety Plan 2022](#), pgs. 16 & 81

Goal 1: Increase pedestrian safety and accessibility along and across Monroe

Strategy 1.1: Continue the Jonesboro Children’s Trail from Zoo Drive to Markham

Pedestrian access along Monroe, and connections from the War Memorial parking lot to crosswalks across Monroe, require a pedestrian facility along Monroe. The narrow space between the curb and the ADH parking lot, and the existing canopy trees in that space, make creating a sidewalk corridor on the east side of Monroe challenging (Figs. 4-5). Relatively ample space on the west side, coupled with the Jonesboro Children’s Trail corridor already planned and funded for the west side of Jonesboro and Monroe [from 12th Street to Zoo Drive](#), make continuing this trail corridor a natural fit for this space, solving both local and regional pedestrian and bicycle transportation challenges. Access to the crosswalks on the east side will have to be more singular.

Strategy 1.2: Reduce speed limit to 25mph

Though its design does not reflect it, Monroe is considered a Residential Street on the [Master Street Plan](#). [Jonesboro Children’s Trail Phases 1-3 alterations](#) prioritize walking and biking modes on the Monroe Street corridor even more. The existing 30mph speed limit is not necessary here. A 25mph speed limit will increase crosswalk yield compliance and decrease the risk and severity of car vs. pedestrian collisions. Pedestrian safety is more important than efficient vehicular throughput on Monroe Street due to how vehicles and pedestrians use this corridor.

Strategy 1.3: 4-to-2 Road Diet on Monroe from West Markham to 7th Streets

Monroe is four lanes only between Markham and 7th Street. Typical vehicular traffic volumes do not require four lanes. This lane configuration is unsafe for pedestrians, especially pedestrians crossings the street (Fig. 7). A road diet would optimize the corridor to better fit the pedestrian and parking needs of Monroe’s users.

Road Diet and Pedestrian Crossing: A 4-to-2 road diet would make pedestrian crossings much safer by decreasing speeds, decreasing speed differentials, decreasing the width of conflict between pedestrian and vehicular traffic, eliminating the risk of Multiple Threat Crashes and increasing crosswalk yield compliance.²

Road Diet and Resurfacing: A major advantage to a 4-to-2 road diet like this is that the City would not have to wait for a resurfacing project to implement it. The lanes would stay in the same places. The road diet would result in 12 ft. parking lanes where now there are 12 ft. exterior travel lanes and maintain the 11 ft. interior travel lanes. Striping can simply overlay existing striping (but see Strategy 1.5).

Road Diet and Parking: More parking is needed in this area, as evidence by how full the War Memorial Stadium parking lot is on weekdays and how often cars park illegally close to crosswalks (Figs. 3-6). This road diet would allow parallel parking on both sides of Monroe, creating 42 additional parallel parking spots (Fig. 8). Parallel parked cars along the west side of

² A 4-to-3 road diet is also possible, but has two major disadvantages. First, the parking lanes would be very narrow for use as travel lanes when War Memorial Stadium events are released. Second, a 4-to-2 road diet could be implemented over the existing striping without the need for resurfacing. This would make the project something that could be done in the short term vs. waiting years for a resurfacing project.

Monroe will also make the Jonesboro Children's Trail feel and be safer, representing a steel barrier between trail users and moving traffic.

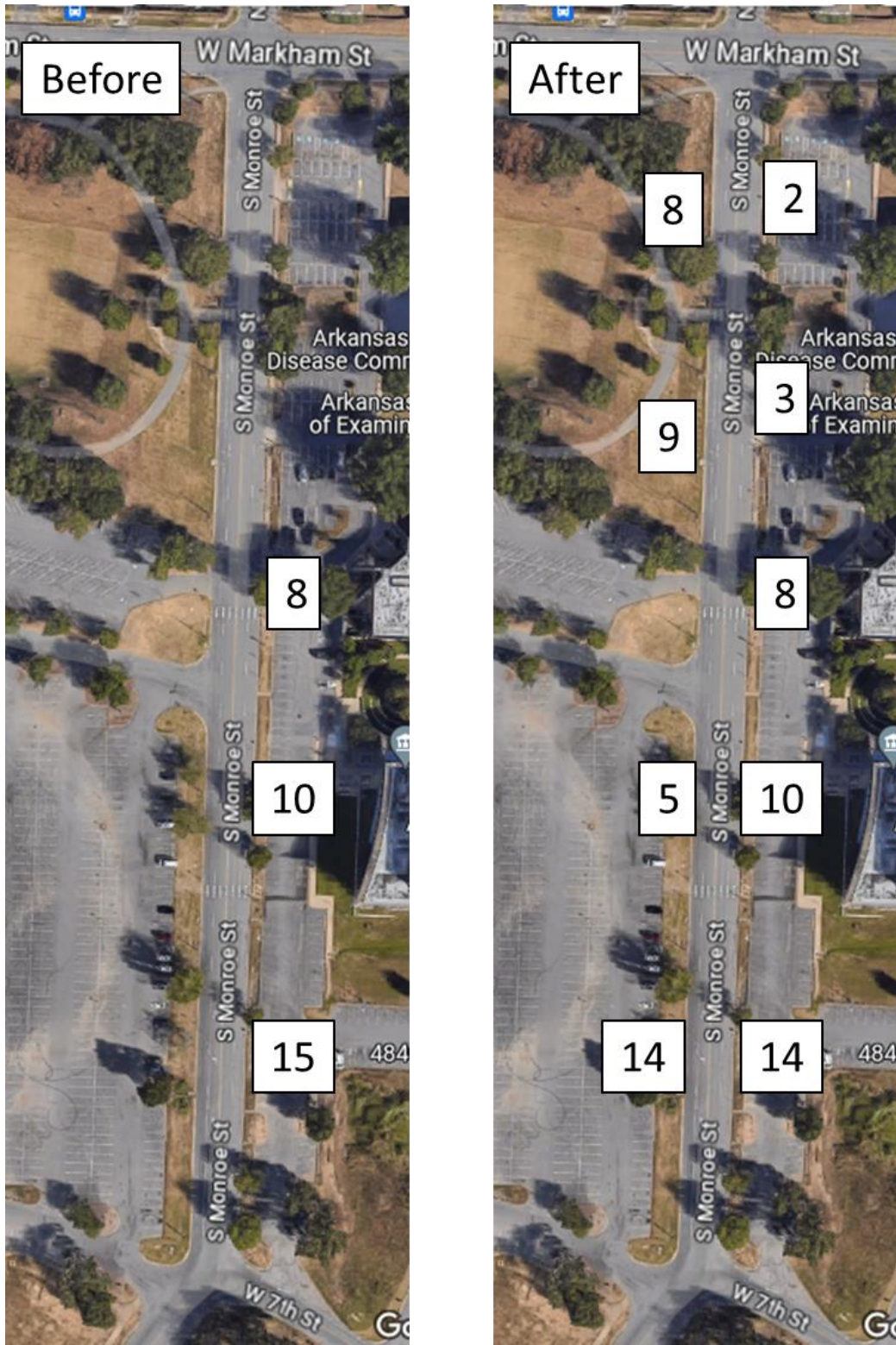


Figure 8. As proposed, the Plan would add 42 much-needed parallel parking spots to this corridor.

Strategy 1.4: Install Pedestrian Refuge Islands

Assuming a [walking speed of 3ft./sec.](#) makes these crosswalks all-ages-and-abilities, particularly important for accessible ADH services. Using this rate, it would take a pedestrian about 15 seconds to cross the existing 46 ft. wide crosswalks with no refuge at any point during that crossing. Vehicular conflicts may completely change over the course of 15 seconds, leaving the pedestrian's safety entirely dependent on the driver. That's not comfortable.

A pedestrian refuge island, coupled with a 4-to-2 road diet, reduces this exposure dramatically. Pedestrians need only anticipate 11 ft. of width or about 3 seconds. This means conflicts at the decision point when the pedestrian chooses to enter the crosswalk are similar throughout the crossing. Now the pedestrian's safety *is in her own hands*. This change doesn't just move the needle on crosswalk comfort; it is a categorically different experience.

Strategy 1.5: Install Lateral Shifts

Lane geometry will have to change around the crosswalks to accommodate pedestrian refuge islands (Figs. 9-13). The angle of lateral shifts must be not be greater than $\text{width} \times \text{speed}^2$. A 6 ft. wide pedestrian refuge island requires each 11 ft. wide travel lane to shift 3 ft. toward the curbs. With a 25mph speed limit (Strategy 1.2), this means that the lateral shift must occur over 31 ft. or more.

A longer lateral shift would allow cars to comfortably navigate the shift at a higher speed. Perhaps counterintuitively, driver comfort is not what we're seeking; the more comfortable the shift, the higher speed at which drivers will drive it. This is why [FHWA include lateral shifts](#) as a traffic calming technique. I propose keeping the lateral shift to 31 ft. to calm traffic before the crosswalks.

Strategy 1.6: Install (removable) curb extensions

Curb extensions are typically permanent extensions of the sidewalk narrowing the curb-to-curb width of the street at that point (Fig. 14). We propose creating *removable* curb extensions with rigid, removable bollards (see Strategy 1.8).

Curb extensions on Monroe will have several benefits:

- 1) They will **reduce the crosswalk width**, limiting the time and distance that the pedestrian is exposed in the crosswalk (see Strategy 1.4)
- 2) Drivers may not understand a pedestrian's intention to cross. Curb extensions locate the pedestrian to a space where their intentions are clear, **increasing yield compliance**.
- 3) Parallel parking use is high during the workday but non-existent otherwise. Curb extensions will **physically protect pedestrians** regardless of the presence or absence of parallel parked cars, especially important on the east end of Crosswalk #1.
- 4) Curb extensions **create a choker** that narrows the roadway (even more so than parallel parked cars in a 12 ft. parking lane) and decreases vehicular speeds at that point. [Chokers are another traffic calming solution](#).
- 5) Parallel parked cars close to the crosswalk limit sight distances between pedestrians and drivers, decreasing yield compliance and safety. This is a common problem in this corridor (Figs. 3-6). Curb extensions will **prevent cars from parking within 20 ft. of the crosswalk**, as currently signed but not followed.

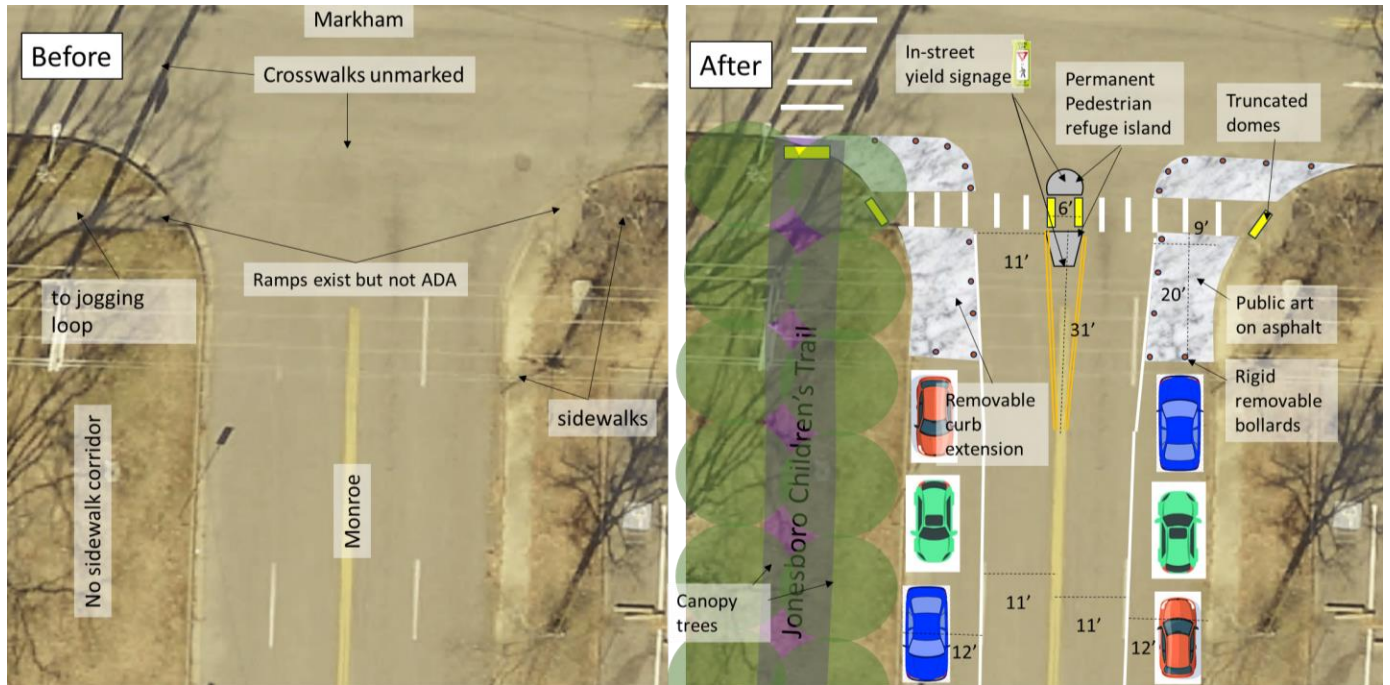


Figure 9. Crosswalk #1, existing conditions (Before) and proposed infrastructure (After).

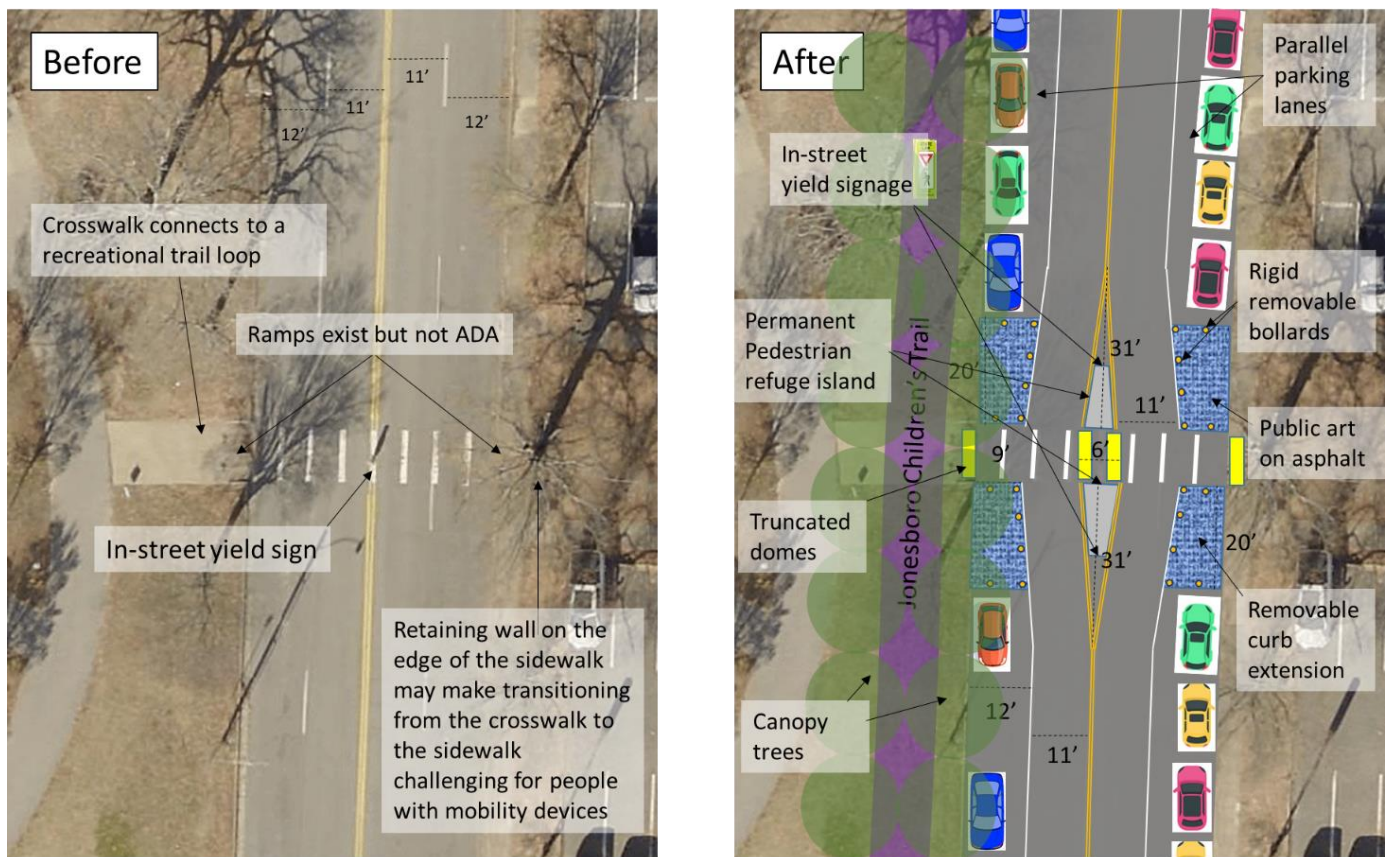


Figure 10. Crosswalk #2, existing conditions (Before) and proposed infrastructure (After).

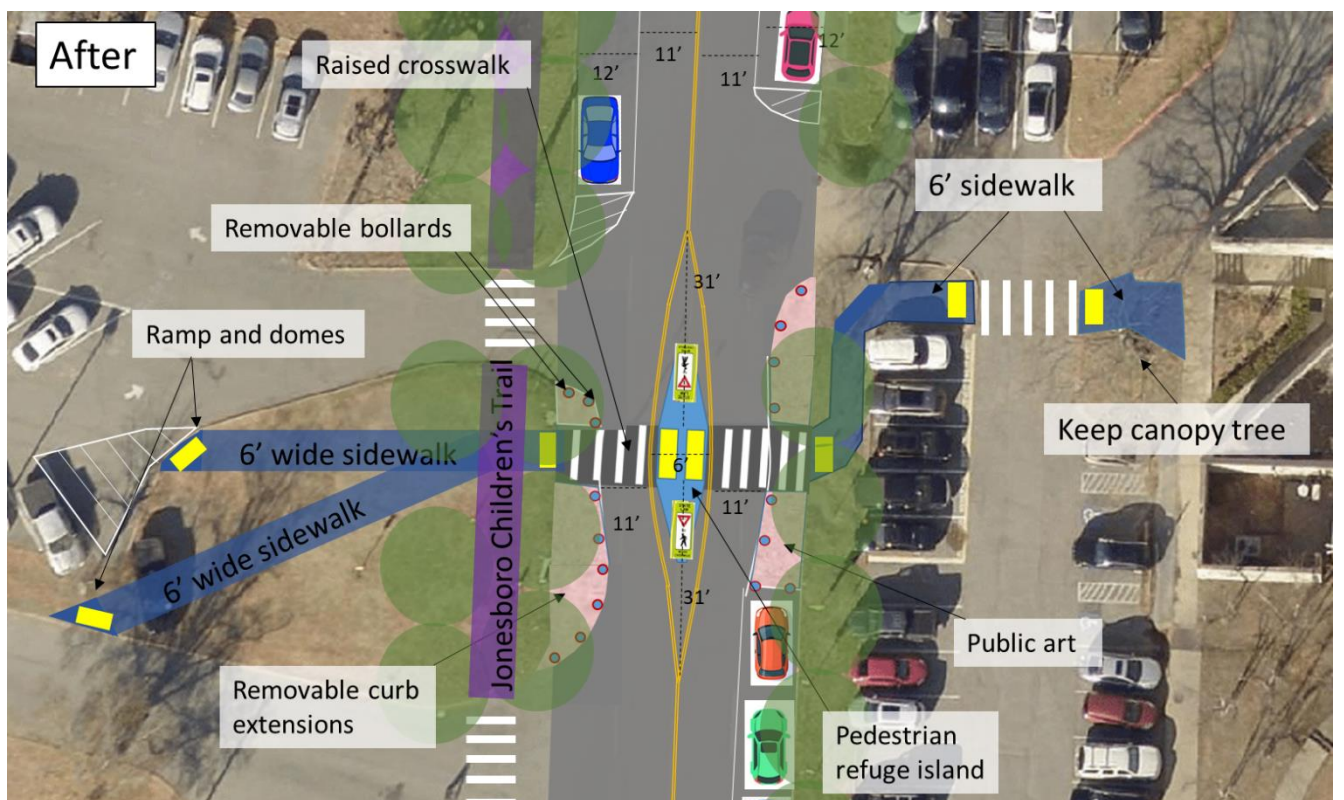
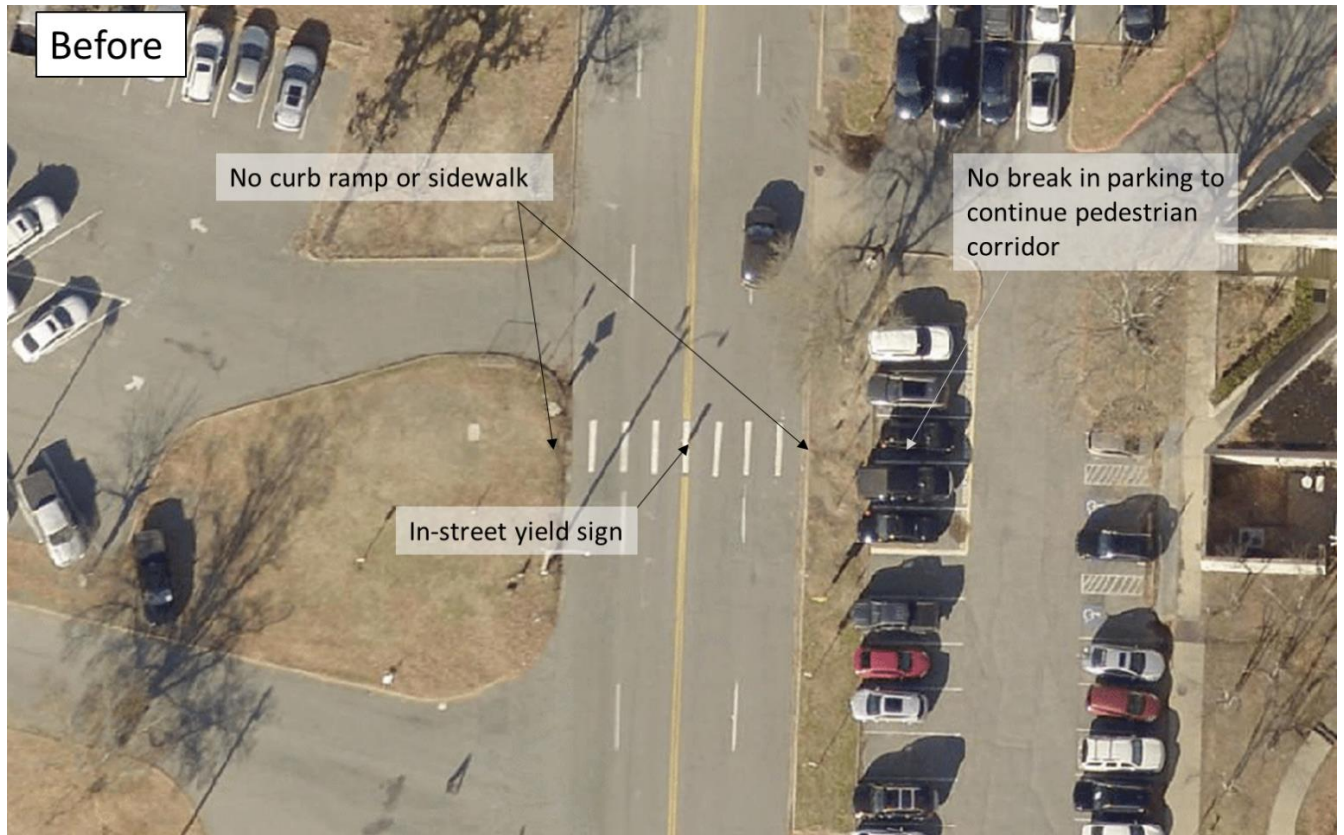


Figure 11. Crosswalk #3 (as defined by Fig. 1) has no accessibility. I propose creating sidewalk corridors on both sides to get to the crosswalk and a raised crosswalk instead of ramps down to the crosswalk to calm traffic.

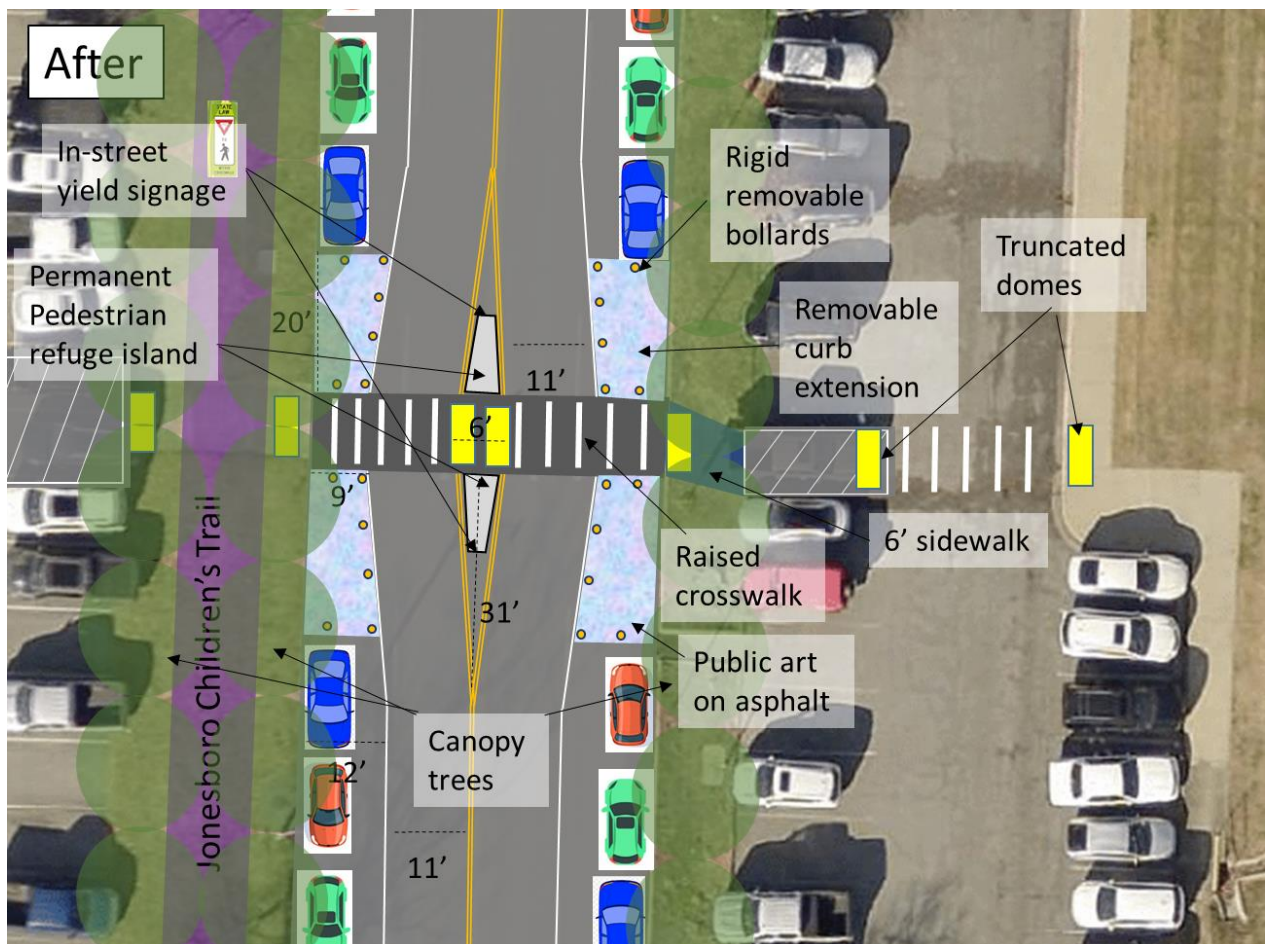


Figure 12. Crosswalk #4 (as defined by Fig. 1) has little accessibility on the west side and none on the east side. Creating accessibility will require removing two parking spots in the War Memorial parking lot and one in ADH.

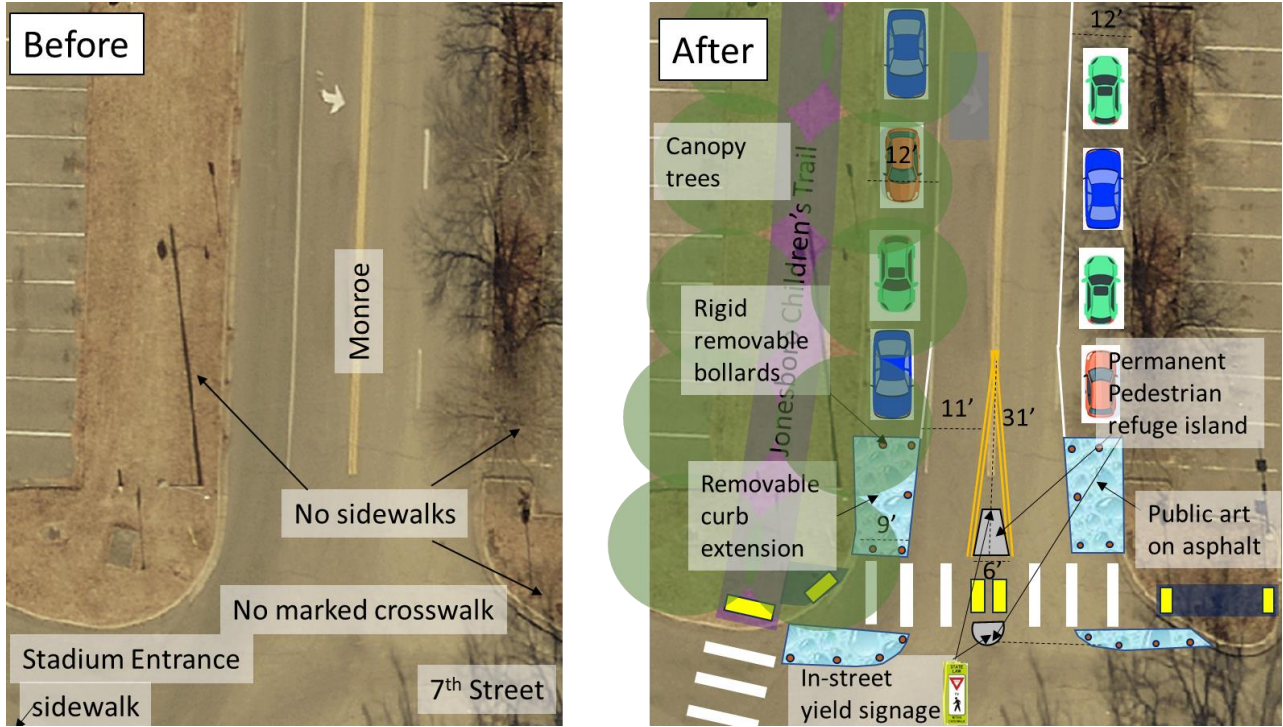


Figure 13. Crosswalk #5 (as defined by Fig. 1) has no existing pedestrian facilities on either side. This crosswalk, coupled with a short sidewalk on the west side to funnel pedestrians to it, would create a safer crossing of Monroe at 7th Street.



Figure 14. Curb extensions to a mid-block crosswalk.

Strategy 1.7: Public Art

Little Rock has embraced public art. Though bollards may prevent cars from entering the curb extension place, there's also a need to make this space visually distinct from the roadway. Curb extensions could be coupled with public art on the asphalt to make them more visible and activate the space for pedestrians (Fig. 8).



Figure 15. Examples of curb extensions created, in part, through public art.

Strategy 1.8: Incorporate Operational Flexibility for War Memorial Events

The one situation when having four travel lanes is useful on Monroe is during War Memorial events. The existing four lanes of traffic allow the two northbound lanes to stack while waiting to exit onto Markham after a War Memorial event. The daily safety of ADH and UAMS employees should not be compromised for this benefit, but it doesn't have to be. The proposed wide exterior parking lanes allow a creative solution.

Because the bollards are removable, the corridor could be used in several different ways for a War Memorial event, depending on event size and staffing:

- 1) **As is:** For small War Memorial events, bollards could be left in place as they would typically be.
- 2) **Remove eastside curb extensions:** For a larger event, to recover current stacking capacity, parking could be not allowed on the east side of the street and bollards could be removed on that side of the street, creating two northbound lanes after the event. This would not require much or any police directing traffic, just an announcement over the PA.
- 3) **Remove eastside AND westside curb extensions:** For the largest events, three or all four lanes could be converted to northbound traffic immediately after the event (Fig. 9). This would require police directing traffic. This is something that could be done with existing infrastructure and this strategy remains possible with the Plan.

Additional Strategies: ARDOT published a guide for appropriate treatments to consider at midblock crossings depending on context (Table 1). Remaining strategies apply some of these.

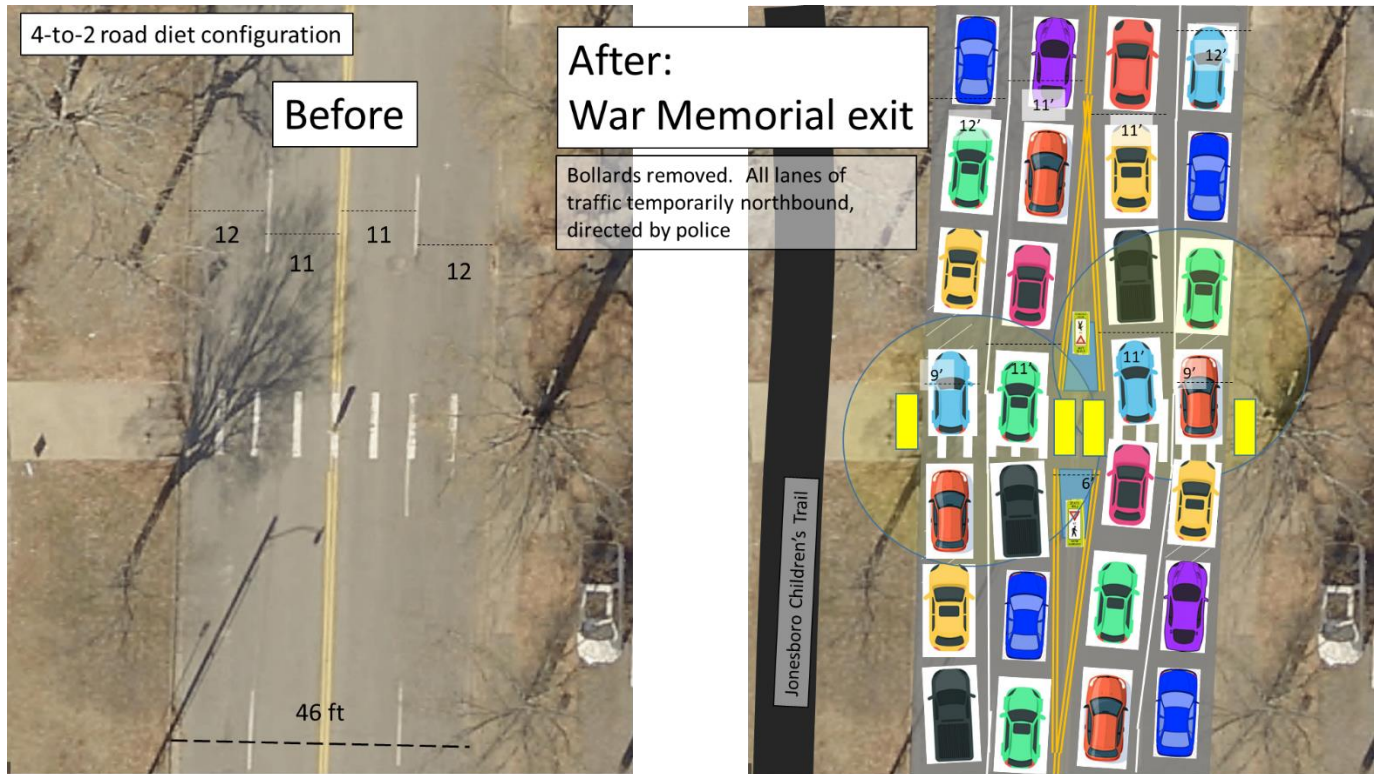


Figure 16. Removable bollards creates flexibility in traffic movements on Monroe.

Strategy 1.9: Restripe crosswalk with retroreflective striping to make it more visible.

See also Figures 9-13. *By 2025.*

Strategy 1.10: Create better lighting around crosswalk.

The Monroe corridor already has street lighting on the west side of the street, but this lighting does not correspond to crosswalk locations. Lighting could be moved, or new lighting added, to increase the nighttime visibility of crosswalks. Because the most common concerns are during business hours, this particular intervention may be a low priority.

Strategy 1.11: Install raised crosswalks on Crosswalks #2, #3, and #5

Raised crosswalks are essentially speed tables on which pedestrians cross. The crosswalk is raised to the height of the top of the curb so that pedestrians don't change elevation when crossing the street but cars must slow down to safely cross the crosswalk. They illustrate with infrastructure that the car is traveling across a pedestrian space and slow traffic *where pedestrian conflicts exist*. These may be particularly compatible with the Monroe corridor for three reasons. First, there [will be a raised crosswalk at Jonesboro and 10th](#), so raised crosswalks at Monroe are congruent with another part of the corridor. Second, Crosswalks #2, #3, and #5 don't yet have ramps. The cost of building raised crosswalks may be similar to the cost of creating ADA ramps. The City will be legally obligated to make these crosswalks ADA compliant as soon as it does any pedestrian retrofitting to this corridor. Third, pedestrian crossings are particularly high at these locations. Due to parking alone, hundreds of people use these crosswalks every business day. *By 2025.*

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	① 2 4 5 6	① 5 6 7 9	① 5 6 7 9	① 4 5 6 7 9	① 5 6 7 9	① 5 6 7 9	① 4 5 6 7 9	① 5 6 7 9	① 5 6 9
3 lanes with raised median (1 lane in each direction)	① 2 3 4 5	① ③ 5 7 9	① ③ 5 7 9	① 3 4 5 7 9	① ③ 5 7 9	① ③ 5 7 9	① ③ 4 5 7 9	① ③ 5 7 9	① ③ 5 9
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	① 2 3 4 5 6 7 9	① ③ 5 6 7 9	① ③ 5 6 9	① 3 4 5 6 7 9	① ③ 5 6 7 9	① ③ 5 6 9	① ③ 4 5 6 7 9	① ③ 5 6 9	① ③ 5 6 9
4+ lanes with raised median (2 or more lanes in each direction)	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 8 9
4+ lanes w/o raised median (2 or more lanes in each direction)	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 8 9

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

- 1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
- 2 Raised crosswalk
- 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- 4 In-Street Pedestrian Crossing sign
- 5 Curb extension
- 6 Pedestrian refuge island
- 7 Rectangular Rapid-Flashing Beacon (RRFB)**
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon (PHB)**

Table 1. Appropriate midblock crossing interventions for different contexts, blue box = existing context, yellow box = context after 4-to-2 road diet ([ARDOT Action Plan for Implementing Pedestrian Crossing Countermeasures at Uncontrolled Locations](#)).

Strategy 1.12: Retain in-street pedestrian crossing signs

Crosswalks #2-#4 currently has in-street pedestrian crossing signs (Figs. 3-5). These should be retained and installed on the pedestrian refuge islands. *By 2025.*

Strategy 1.13: Install walkways around crosswalks

Accessibility TO the crosswalks is important. The Jonesboro Children’s Trail (Strategy 1.1) is part of this strategy and solves most of the accessibility issues on the west side of Monroe. Because Crosswalks #3 and #4 don’t lead to a sidewalk, and creating a sidewalk on the east side of Monroe here would be challenging, the Plan suggests individual pedestrian connectivity from Crosswalks #3 and #4 to the ADH sidewalks (Figs. 11-12).

Crosswalk #3 does not connect to any pedestrian corridors (Fig. 11). On the west side, I propose to create an ADA ramp and sidewalk that connects to two parking lots and follows employee behavioral [desire lines](#) as described by Arkansas Outside’s Joe Jacobs during the City of Little Rock BikePed Count on Tuesday September 12th, 2023. On the east side, I recommend creating

an ADA ramp and sidewalk corridor connecting to the existing ADH sidewalks (Fig. 11). No parking spots would be required to create pedestrian pathways around Crosswalk #3.

Crosswalk #4 would create accessibility from the War Memorial parking lot, which would require losing two parking spots and creating a ramp to the existing sidewalk (Fig. 12). It would shift the existing sidewalk alignment north slightly to better align with the existing sidewalk. Rather than creating ramps to the street, I propose creating a raised crosswalk to calm traffic. On the east side, a short sidewalk segment could lead to a pedestrian corridor to the ADH sidewalks. This would require losing one additional ADH parking spot. ADH would have to construct a ramp to access their existing sidewalk.

Crosswalk #5 does not have any sidewalk on the east side either. I propose creating a short sidewalk immediately to the east of the crosswalk to funnel 7th Street's pedestrian traffic to the crosswalk.

Strategy 1.14: Plant Canopy Trees

Canopy trees do several things to create a safer and more welcoming environment for pedestrians:

- 1) They create a **physical barrier** between the travel lane and the sidewalk/trail. This is especially important for this corridor, in which parallel parking is pretty much non-existent outside of work hours.
- 2) They create a **shade canopy** to make walking cooler and more comfortable
- 3) They **create firm edges in space**, defining and making more comfortable pedestrian spaces
- 4) They **improve public health**. Mechanisms behind this are unclear, but multiple studies show that exposure to trees prolongs life, aids mental health, reduces asthma, obesity, stress, and heart disease. Walkable City Rules, Jeff Speck

Trees have additional benefits, like **reducing our urban heat island effect, absorbing carbon dioxide, UV, and other pollutants, and absorbing stormwater**.

Crossing Markham: The Need

Another concern is the danger of crossing Markham at or around Monroe. Markham is a four lane, 18K ADT, 35mph posted speed Minor Arterial.³ As is typical for four-lane urban roads in Arkansas, Markham is dangerous (Figs. 7 and 17)². However, pedestrians often attempt to cross West Markham Street at Monroe. These may be **ADH or UAMS employees** or **War Memorial visitors** accessing Popeye's or Wendy's (Fig. 18). War Memorial Stadium is used for activities such as band competitions, football games, and vintage markets. There is an annual beer drinking event and cultural celebrations that include alcohol. In fact, many of these events either involve teenage kids with underdeveloped prefrontal cortexes or inebriated adults, both of whom are at risk for poor safety judgment.

Hillcrest residents attempting to access War Memorial Park or **bicyclists attempting a north-south route** might also attempt to cross Markham at Monroe. In fact, the City of Little Rock's

³ ARDOT [Average Daily Traffic interactive GIS map](#)

adopted Master Bike Plan *instructs* cyclists to cross West Markham Street at Monroe (Fig. 19). Would *you* want to attempt to cross Markham at Monroe, walking or biking, with no crosswalks or traffic control as it is currently designed (Fig. 18)?

Crossing Markham at Monroe is also important for **Rock Region Metro users**. An eastbound rider gets off south of Markham to access Popeye's, Wendy's, First Security Bank, Deer Eye Care, or Central Bank; she must cross Markham to make these connections (Fig. 20). Similarly, a westbound rider will get off north of Markham to access War Memorial Stadium, ADH, the Zoo, the Children's Library, or the Jim Dailey Fitness Center; she must cross Markham to access these destinations.

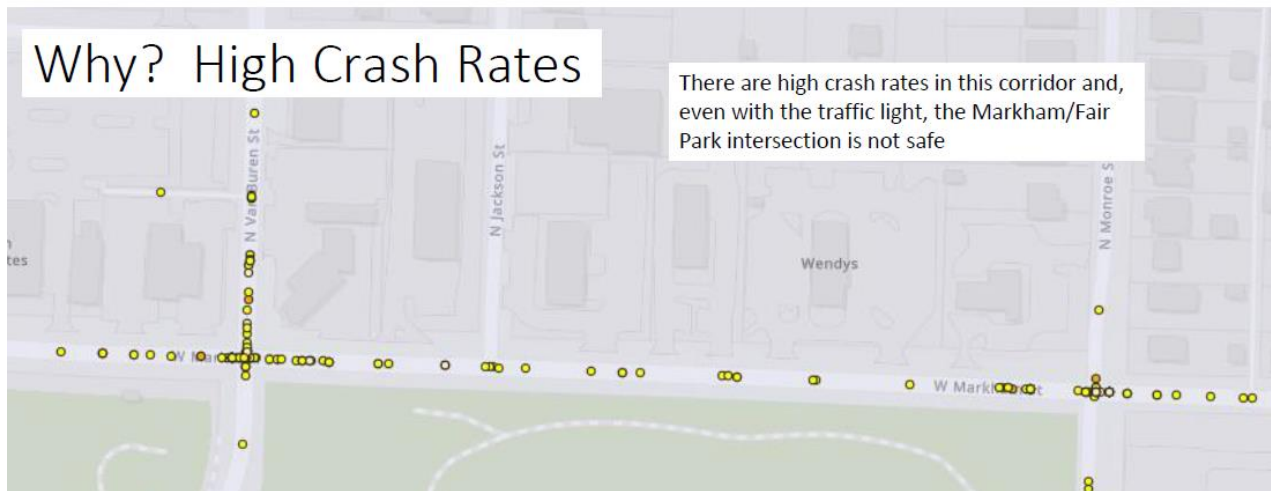


Figure 17. Markham has a high crash rate and is a significant barrier to walking and biking as modes of transportation ([Arkansas Crash Analytics Tool](#)).



Figure 18. Crossing Markham at Monroe while walking or biking is dangerous. Image from Google Streetview.

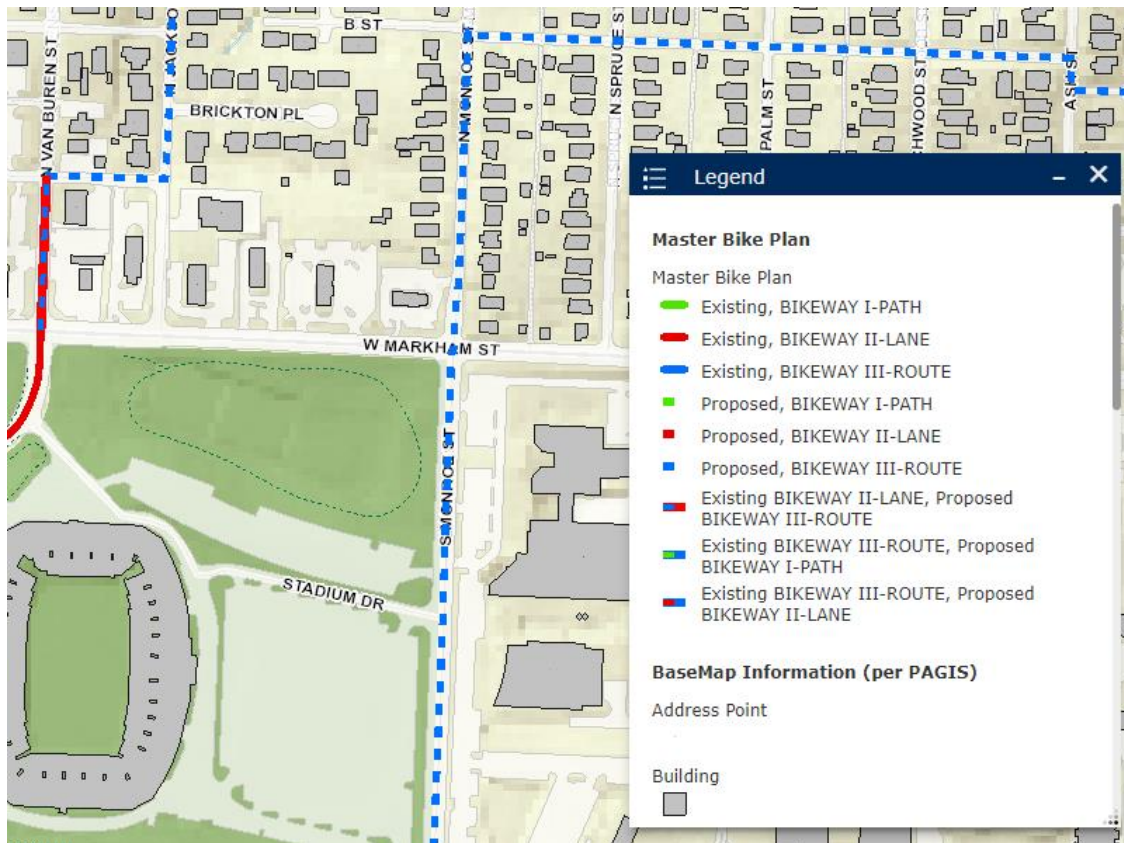


Figure 19. The City of Little Rock’s adopted Master Bike Plan tells cyclists to cross Markham at Monroe. Map from City of Little Rock’s [Transportation Plan Viewer](#).

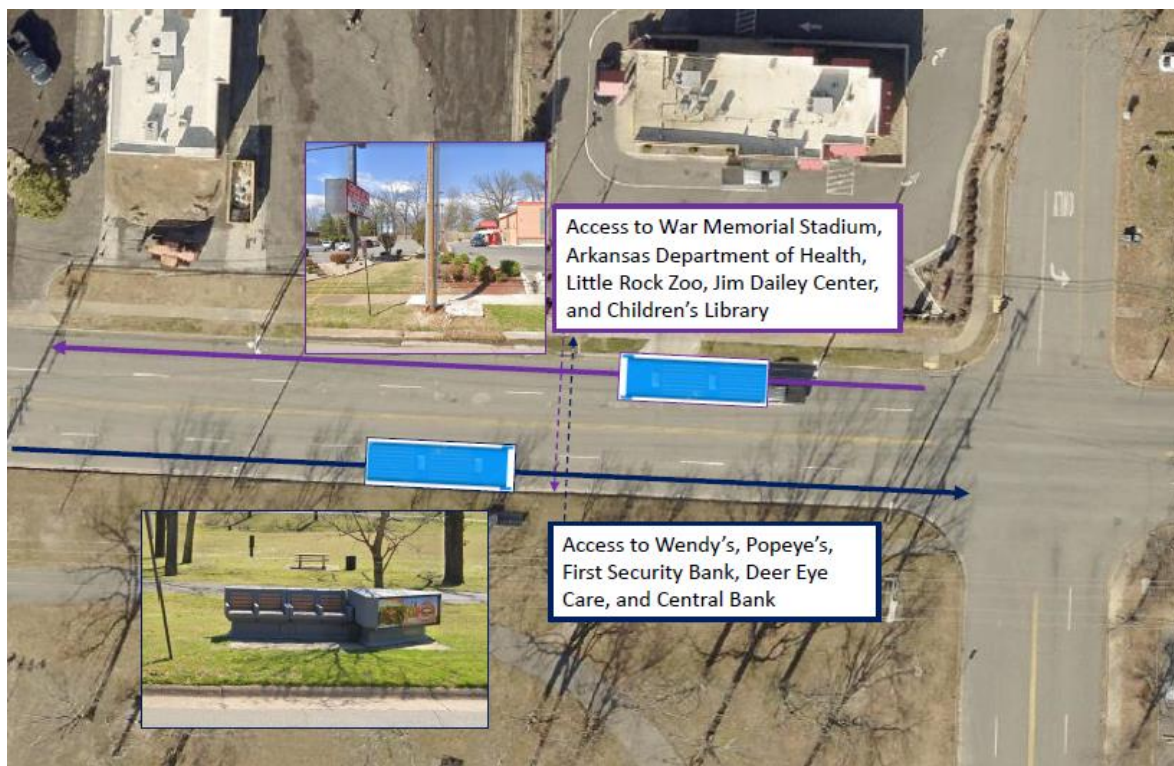


Figure 20. A useful transit network depends on frequent, safe street crossings close to stops.

A safe Markham crossing at Monroe is also important for the [Jonesboro Children’s Trail](#) (Fig. 21). The City has been awarded three grants to date to create this corridor from south of 12th Street to Zoo Drive. This is an equity corridor, getting people who live south of 12th Street (an under-resourced community) access to the Children’s Library, the Zoo, War Memorial Stadium, and other War Memorial Park amenities. Jonesboro Phase 4, and its Markham crossing, would continue that equity access to War Memorial Stadium, Arkansas Department of Health, and the Hillcrest neighborhood.

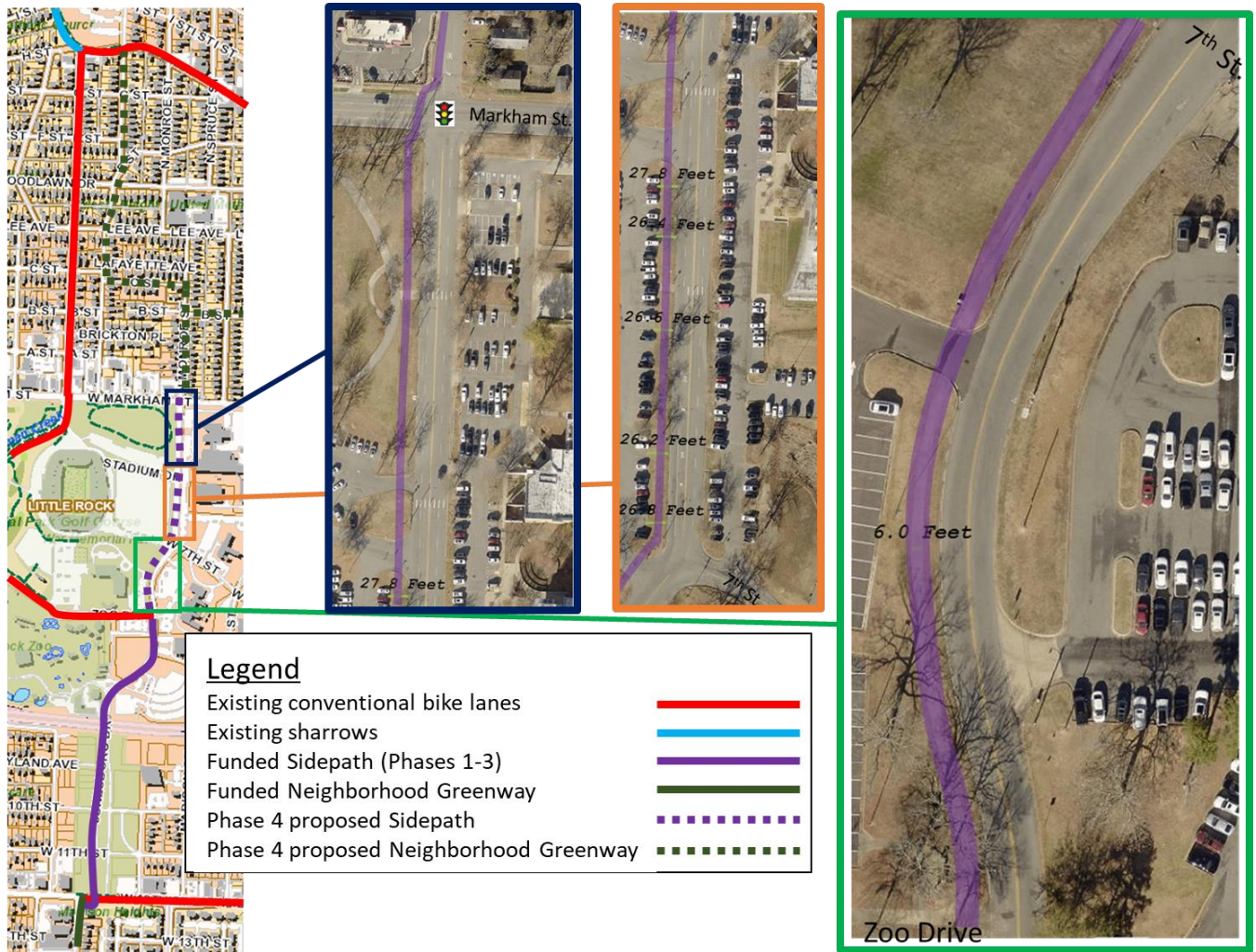


Figure 21. The Jonesboro Children’s Corridor is funded from south of 12th Street to Zoo Drive (solid purple and green). Jonesboro Phase 4 would continue the corridor from Zoo Dr., across Markham, to Kavanaugh Blvd. (dashed purple and green). Purple on the aerial photographs represents the proposed alignment of a 12’ wide asphalt trail.

When discussing this crossing, a common question is “Why don’t people walking and biking cross at the light at Fair Park instead?” There are several answers to that question:

- 1) **Because they don’t:** Planners and engineers often want to prescribe where they believe pedestrians should cross a street, but more successful projects follow the [desire lines](#) of pedestrians. The National Association of City Transportation Officials (NACTO) says

“locate pedestrian crossings as per current or projected pedestrian desire lines.”⁴ Observation shows that people cross Markham at Monroe or slightly west of Monroe. Those observations indicate a need for pedestrians to cross here. The intersection of Markham and Monroe, and their existing sidewalks on the west side of the intersection, creates an [unmarked crosswalk](#) at which cars are legally required to yield to pedestrians. Especially given pedestrian crossing frequencies here, it is the City’s responsibility to create a safe pedestrian crossing at this crosswalk.

- 2) ***Because they shouldn’t be expected to:*** The expectation for pedestrians at Monroe to instead cross at Fair Park is unreasonable. In order to cross at the light at Fair Park to get to Popeye’s, an ADH employee would have to walk 400+ ft. to the Markham/Monroe intersection, another 900 ft. across Monroe to the Fair Park/Van Buren intersection, push the crosswalk button and wait for the light to change, cross 75 ft. of Markham, then walk an additional 890 ft. to the front door of Popeye’s. To return to work, the ADH employee would then do all of this backwards.

NACTO states that there is no absolute rule for crosswalk spacing, but “120’-200’ has been shown to be sufficient.”⁷ Walking 900 ft. to a crosswalk does not seem realistic given this guidance. NACTO states that “on streets with higher volume (>3000 ADT), higher speeds (>20mph), or more lanes (2+), crosswalks should be the norm at intersections.”⁷ This describes Markham, except that crosswalks are not the norm.

NACTO states “if it takes a person more than 3 minutes to walk to a crosswalk, wait to cross the street, and then resume his or her journey, he or she may decide to cross along a more direct, but unsafe or unprotected, route.”⁷ Typical walking speed is 3 ft./second.⁵ At that speed, it would take 5 minutes to walk from Monroe to Fair Park along Markham, perhaps 2-3 minutes to wait for a walk signal and cross, and an additional 5 minutes to walk to Popeye’s. 12-13 minutes is much longer than three minutes, and considering this trip is required to get there *and get back*, cuts severely into a lunch break.

- 3) ***Because successful bike routes are direct:*** A core principle of creating a successful bike network is that routes are direct.⁶ Routing northbound Jonesboro Children’s Trail traffic onto Zoo Drive to Fair Park to Van Buren is not direct. Routing northbound Children’s Trail traffic onto the War Memorial jogging path to ride west to cross at Fair Park/Van Buren is not direct. A Markham crossing at Monroe creates a direct path for a Jonesboro/Monroe corridor.
- 4) ***Because a Van Buren crossing, and the Van Buren corridor, is not a “Children’s Trail”:*** The very name of the Jonesboro Children’s Trail implies a facility intended for all-ages-and-abilities. Design elements in Phases 1-3 of the Jonesboro Children’s Trail are all-ages-and-abilities.⁷ Crossing Markham at Monroe, and the Van Buren bike lanes⁸, are not all-ages-and-abilities.

⁴ Urban Street Design Guide, [Crosswalks and Crossings](#), NACTO

⁵ Forde and Daniel. 2021. [Pedestrian walking speed at un-signalized midblock crosswalk and its impact on urban street segment performance](#). Science Direct 8:1 pgs. 57-69

⁶ [FHWA Guidebook for Measuring Multimodal Network Connectivity](#), 2018

⁷ [Designing for All Ages and Abilities](#), NACTO, 2017

⁸ [Van Buren bike lanes](#), City of Little Rock

Van Buren Crossing: The intersection of Monroe and Fair Park/Van Buren is the intersection of two Minor Arterial roads.⁹ Markham has five lanes at this intersection, Fair Park has four lanes, and Van Buren has three lanes. Wide turning radii allow cars to cross the crosswalk at high speeds and create a 61 ft. wide crosswalk when Markham Street is only 53 ft. wide. Fair Park has ~16K cars per day and Markham has ~18K cars per day here.⁵ There are no right-on-red restrictions (Fig. 22).



Figure 22. When a controlled intersection has no right-on-red restriction, the driver seeking to turn right on red is waiting for a break in traffic to quickly accelerate into the turn. Her eyes are looking away from the conflicting crosswalks in front of her and crossing the street she's entering in order to time her turn. This pattern is a common cause of car vs. pedestrian collisions at intersections. If the City were to route the Jonesboro Children's Trail to this intersection, it should at the very least not allow right turns on red.

⁹ [Transportation Plans Viewer](#), City of Little Rock

Van Buren: The Van Buren bike lanes and sidewalk network are not child- or ADA-friendly. The conventional bike lanes disappear at the high capacity intersections of Markham and Lee where definition of bicycle space is needed most (Fig. 23). Conventional bike lanes are no longer recommended for streets with Van Buren’s speed and traffic volumes; current guidance would recommend a physically separated bike lane or shared use path (Fig. 23). While facilities like this have their place for creating necessary connections, this is certainly not a “children’s” corridor. Van Buren also lacks a continuous sidewalk corridor on either side of the street. East side sidewalks stop between A and B streets and resume just south of Lee. West side sidewalks stop north of Woodlawn. This requires someone in a mobility device to cross Van Buren multiple times in order to walk along it.



Figure 23. Van Buren is not an all-ages-and abilities bicycle corridor.

Goal 2: Create a safe bicycle and pedestrian crossing of Markham at Monroe

Given Markham’s traffic speeds and volumes, as well as poor sightlines to the east due to topography, simply striping a crosswalk across Markham at Monroe is insufficient. Given current pedestrian behavior, the need to create direct routes, and the stress of the Van Buren crossing and corridor, crossing Markham at Van Buren is not the preferred solution for the Jonesboro Children’s Trail. To cross Markham, we need to improve the Monroe crossing.

Strategy 2.1: Build a diverse coalition

The [Jonesboro Children’s Trail](#) has received strong support from the community, the Central Arkansas Children’s Library, the City, and funding agencies. Many understand the equity need for the Jonesboro Children’s Trail, connecting underserved communities south of 12th Street to the Children’s Library and other resources in War Memorial Stadium. A Markham crossing at Monroe should keep those stakeholders and cultivate additional stakeholders, including **ADH** and **UAMS**, whose employees cross here to access restaurants **Rock Region Metro**, whose riders cross here to access destinations on both sides of Markham, the **Hillcrest Neighborhood Association**, whose residents could better access War Memorial amenities with this crossing, and the bicycle community, represented by the **Active Transportation Advisory Committee** and **Bicycle Advocacy of Central Arkansas**. There are very few bicycle crossings of Markham.

Strategy 2.2: Install traffic light at Markham and Monroe

Placing a traffic light on West Markham Street at Monroe would help pedestrians safely cross Markham sufficiently close to their origin and destination so that pedestrians will actually cross at the light. It will also help ADH/UAMS vehicular traffic more safely pull onto Markham Street. It will also help better control peak traffic when War Memorial Stadium is being used for an event.

Strategy 2.3: Install wide crosswalk

To accommodate the Jonesboro Children's Trail width, crosswalk must be 12 feet wide on the south end. To allow pedestrians to get to the existing ADA ramp and cyclists to get to the cycle track, the crosswalk must grow to 22 feet wide on the north end (Fig. 24).

Strategy 2.4: Install crosswalk button and cater signal timing to pedestrians

How much pedestrians use the traffic light and crosswalk will depend on how responsive it is to their needs. When the crosswalk button is pushed, the light should turn quickly to the pedestrian crossing phase. This phase should last at least $53 \text{ ft.} \times 1 \text{ sec./3ft.} = 18 \text{ seconds}$.

This plan will be void without precise support from city officials, community support and engagement from those who can advocate for a safer environment.

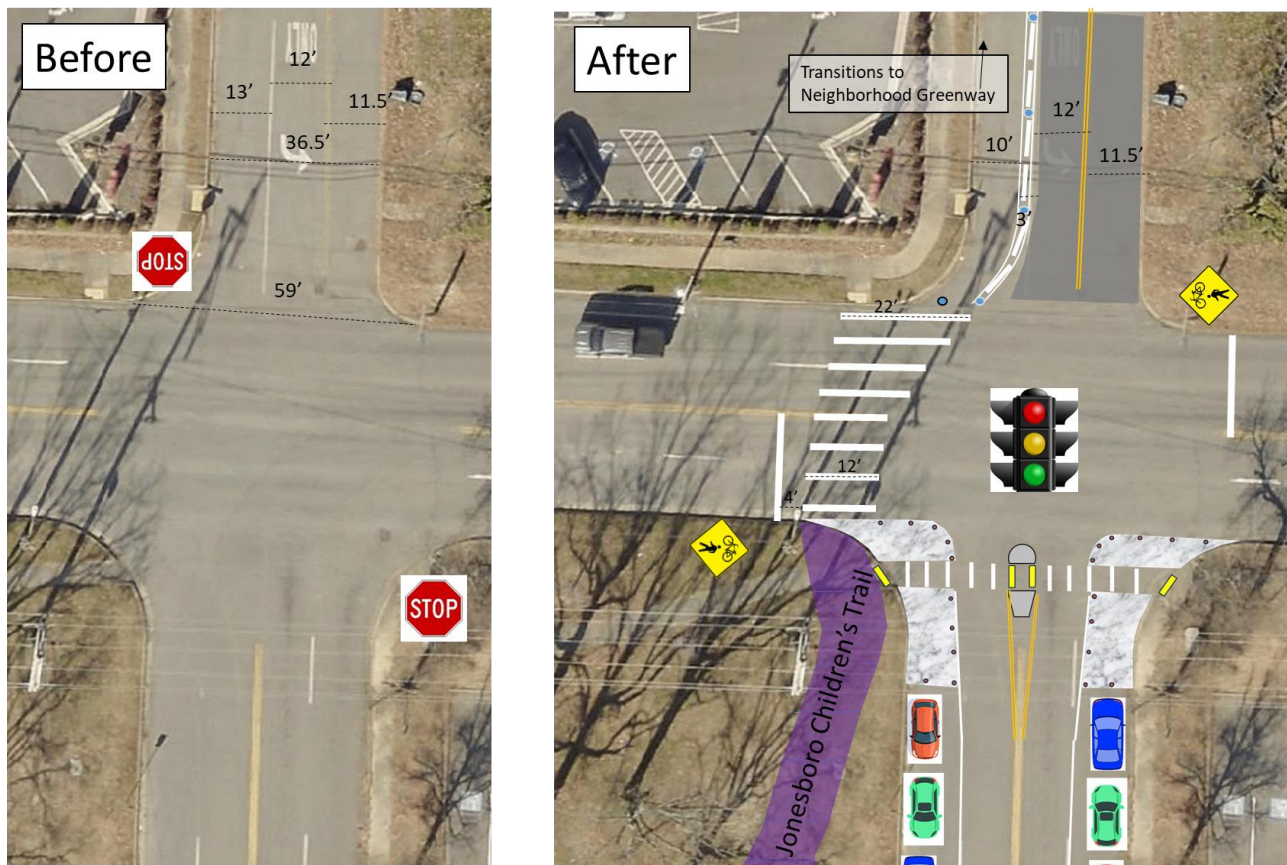


Figure 24. A safe Monroe and Markham crossing at the proposed traffic light. I did not include sidewalks on the north or east sides of the intersection because there is no sidewalk on the NE corner.

Prospective Community Partners (Point of Contact)

Little Rock Bike & Peds (John Landosky, jlandosky@littlerock.gov)

- Project review and input

Little Rock Public Works (Jon Honeywell, JHoneywell@littlerock.gov)

- Project review and input
- Approval and funding

Arkansas Department of Transportation (Kimberly Sanders, Kim.Sanders@ardot.gov)

- Project review and input

Hillcrest Residents Association (Pittman Ware, president@hillcrestresidents.com)

- Advocacy

Rock Region Metro (Becca Green, BGreen@rrmetro.org)

- Project review and input and advocacy

Central Arkansas Library System (Jessica Frazier-Emerson, jdfrazieremerson@cals.org, CALS Children's Library Manager Shya Washington (snwashington@cals.org), and CALS Deputy Director Lisa Donovan, ldonovan@cals.org)

- Project review and input and advocacy

University of Arkansas for Medical Sciences (Mike Motley, mwmotley@uams.edu)

- Advocacy

Little Rock Parks & Recreational Trails (CLR Trails Coordinator Jordan Mays, jmays@littlerock.gov and CLR Parks and Recreation Director Leland Couch, lcouch@littlerock.gov)

- Project review and input

Associate Deputy Director and Chief Financial Officer (Jo Thompson)

- Arkansas Department of Health input

Chronic Disease Prevention & Control Branch Medical Director (Dr. Bala Simon)

- Arkansas Department of Health input

Timeline

Phase 1-Preliminary Work (approximately 1 year)

- Preliminary design and approval consultation from the Arkansas Department of Transportation.
- Surveying, feasibility, impact with city and state businesses.
- Community input sessions/surveys with Arkansas Department of Health employees

Phase 2-Construction (approximately 2-3 years)

- Final design and installation of improvements.

Challenges

- Advocating and obtaining support from key members of the community such as Mayor Frank Scott, Little Rock City Manager Bruce Moore, Ward 3 Director Kathy Webb (kwebb@littlerock.gov, in which the project resides), Ward 1 Director Virgil Miller Jr. (vmiller@littlerock.gov, whose constituents are served by the project).
- Develop data reports about the importance of the project.
- Conflict with ARDOT and City of Little Rock plans for the area.
- Shanetta Agnew, former Arthritis Program Manager, has transferred to another position in School Health Services Department as the State School Health and Wellness Coordinator.

Appendix A: Walk Audit

May 22, 2023

10:00-11:00am

Attendee List

- Dr. Bala Simon, ADH Chronic Disease Prevention and Control Branch Medical Director
- Jo Thompson, ADH Deputy Director of Finance
- Mr. Bailey, ADH Chronic Disease Prevention and Control Branch Manager
- John Landosky Little Rock Bike & Peds
- Kimberly Sanders Arkansas Department of Transportation
- Jordan Mays Little Rock Parks & Recreation Trails Coordinator
- Keyona Mitchell, ADH Colleague
- Sheryl Alexander, ADH Colleague
- Tsai Mei, ADH Colleague
- Jordan Simpson, ADH Colleague
- Rachel Johnson, ADH Colleague
- Amanda Hunter, ADH Colleague
- Teneice Floyd, ADH Colleague
- Sheila Couch, ADH Colleague
- Shanetta Agnew, 2022-2023 Arkansas State Walking College Fellow

Key Findings

- Crosswalks don't lead to sidewalks and need to be resurfaced.
- Install speed bumps on South Monroe Street to slow down motorists.
- Crosswalks don't lead to sidewalks and poorly placed and uneven, not accessible for individuals in wheelchairs or motorized devices.
- Traffic signage is not visible on South Monroe.



Figure A-1. Pictured from left-right: Amanda Hunter, Tsai Mei, Rachel Johnson, Sheryl Alexander



Figure A-2. Pictured Dr. Bala Simon.



Figure A-3. Pictured from left-right: Jo Thompson, Amanda Hunter, Rachel Johnson, Sheila Couch, Sheryl Alexander, Tsai Mei, Teneice Floyd.



Figure A-4. Pictured City of Little Rock Trails Coordinator Jordan Mays.



Figure A-5. One of two walk audit groups consider the Crosswalk 3 (Fig. 2), noting that 1) the white car is parked illegally close to the crosswalk and there is no infrastructure to stop this behavior, 2) there is no ramp at the end of the crosswalk, 3) there is no sidewalk at the end of the crosswalk, 4) signage at the side of the road and in the middle of the road is helpful, 5) hi-vis crosswalk markings are helpful, and 6) the crosswalk is not lit.

Appendix B: Pop-Up Proposal

Why a Pop-Up?

From the [Main Street road diet](#), to the [Markham road diet](#), to the [Jonesboro Children's Trail](#), some of the most controversial and impactful bicycle and pedestrian projects have been accomplished through pop-up demonstrations. Change, even positive change, is more challenging than maintaining the status quo for the community and for the City. It's not necessarily that people don't see the drawbacks of infrastructure as it exists, but, as they saying goes, "better the devil you know than the devil you don't." The City, in particular, will face less blowback from maintaining current, poorly designed infrastructure than by taking a chance on a change that seems like an improvement but may have unforeseen drawbacks.

That's the benefit of a pop-up! The community isn't kept on the sidelines of a planning experience with lengthy explanations and jargon; they can see and experience what the change would look like. The City can see a version the project implemented without much risk and collect data to determine whether or not the change would work. A pop-up can be a stepping stone to implementing a project that would never get done otherwise.

Scope of Proposed Pop-Up

My Plan has two goals, 1) increase pedestrian safety and accessibility along and across Monroe between West Markham and 7th Streets and 2) create a safe bicycle and pedestrian crossing of Markham at Monroe. Modeling Goal #2 is beyond the scope of this pop-up. However, the pop-up will have messaging about Goal #2 and it will ask pop-up participants to weigh in on Goal #2.

Appendix B is organized around the main document's Strategies and assumes an understanding of them (so as not to be repetitive here).

Pop-Up Elements

Strategy 1.1: Continue the Jonesboro Children's Trail from Zoo Drive to Markham

It's challenging to pop-up a trail, but it's critical that pop-up participants visualize how the trail ties the crosswalks together and makes this corridor function for pedestrians.

We will use utility flags to mark the corridor. The trail will be ~1100 lin. ft. Placing 1 flag on two sides of the trail every five feet = 440 flags.

Strategy 1.2: Reduce speed limit to 25mph

We will cover the existing 30mph sign and post 25mph signs at the entrance of this corridor (by Markham facing north and by 7th Street facing south).

Strategy 1.3: Road Diet on Monroe from West Markham to 7th Streets

A convenient part of the Plan is that we will typically follow the existing lane configuration, but just transform exterior travel lanes into parking lanes. We will connect the existing white dashed lines with white duct tape, creating parking lanes. We will cover the "no parking" signs with black plastic bags. We will cover the "turn left only" pavement markings by 7th Street.

Strategy 1.4: Install pedestrian refuge islands

We will create pedestrian refuge islands by laying two 2-string straw bales (18" x 36" x 14") next to each other on both sides of the crosswalk and spraying diagonal reflective striping in the pattern of MUTCD OM3-L (Fig. B-1).

Strategy 1.5: Install lateral shifts

We will shift the travel lanes three ft. toward the curb over 31 ft. at the approach of crosswalks as discussed in the main document. We will do this with gray duct tape to cover existing striping and yellow and white duct tape to establish new striping.

Strategy 1.6 Install (removable) curb extensions

We will install curb extensions around each crosswalk with white duct tape to establish the dimensions shown in Figures. 9-13. We will use straw bales to physically prevent cars from parking in these spaces.

Strategy 1.7: Public art

Once the curb extensions have been physically protected, we will allow families to decorate them with chalk.

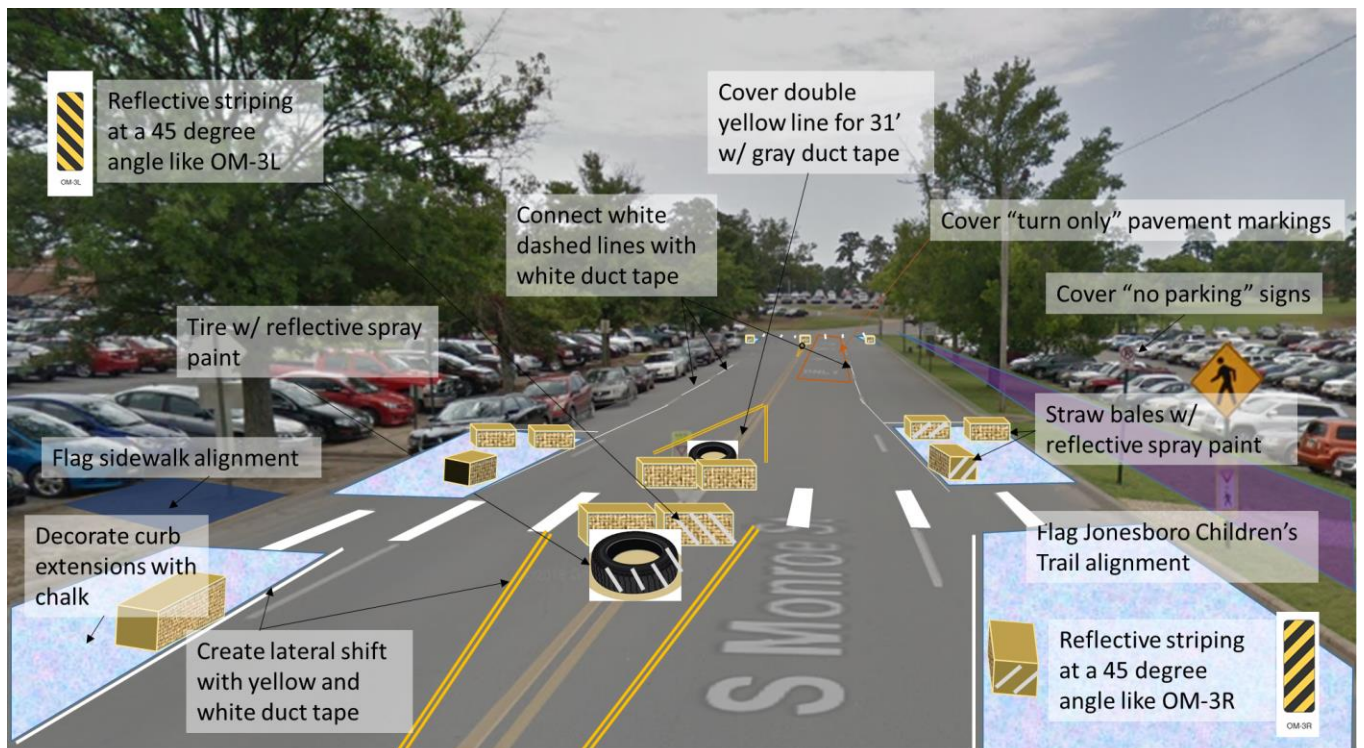


Fig. B-1. We can model midblock crosswalk with simple materials to see how they work.

Strategy 1.8: Operational flexibility

The nature of the design allows operational flexibility. At the end of the pop-up, just before we tear it down, we could demonstrate how this could be converted to two northbound travel lanes or even four by keeping the pop-up lane geometry but getting rid of the straw bales.

Strategy 1.9: Restripe crosswalk with retroreflective striping to make it more visible

Existing crosswalk paint seems to be in pretty good shape. We will install new crosswalks for the Jonesboro Children's Trail and in the ADH parking lot as shown in Figs. 9-13. Also, with the City's permission, we would replace unmarked crosswalks with permanent crosswalks for Crosswalks #1 and #5 with white asphalt striping paint and reflective glass beads. We would make these crosswalks continuous, not assuming the eventual pedestrian refuge island and curb extensions. Crosswalks will ultimately have to extend throughout the curb extensions for all crosswalks to function when the curb extensions are temporarily removed.

Strategy 1.10: Create better lighting around crosswalks

We will not demonstrate this in the pop-up, but we will have a sign explaining the benefits of crosswalk lighting to pop-up participants.

Strategy 1.11: Install raised crosswalks on Crosswalks #2 and #3

We will not demonstrate this in the pop-up, but we will have a sign explaining the benefits of raised crosswalks to pop-up participants.

Strategy 1.12: Retain in-street pedestrian crossings signs

For the purpose of the pop-up, we will not move the in-street pedestrian crossing signs.

Strategy 1.13: Install walkways around crosswalks

We will show the proposed alignment of these walkways with the athletic field painter. We will periodically inspect the condition of the walkways and repaint as necessary. We will build seven ADA-ramps with plywood and 2x6's.

Strategy 1.14: Plant canopy trees

We will not demonstrate this in the pop-up, but we will have a sign explaining the benefits of canopy trees to the pedestrian experience to pop-up participants.

Strategy 2.1: Build a diverse coalition

This will be critical for getting these facilities permanent, but the best way to start building this coalition is to include them in the planning process for the pop-up. I intend to form a steering committee for the pop-up, present them with my proposed pop-up designs, and get and act on their feedback about design elements before we do the pop-up.

Strategy 2.2-2.4: Install a traffic light, crosswalk, and button at Markham and Monroe

These strategies are beyond the scope of the pop-up. I will, however, have signage showing the proposed infrastructure and why I think it is important. I will also ask pop-up participants to tell me what they think about this idea in an online survey.

Metrics

Vehicle Speeds Before and After

We will partner with LRPD to do a speed study before and during the pop-up. What is success will be determined, in part, by what Speed Study Before shows. If Before average, 85th

Percentile, and Top Speeds were all close to 25mph, those data would show that traffic calming might not be important for this corridor. If Before data show speeds higher than that, then one measure of success is how much those speeds were reduced (relative calming) and how close they were to that 25mph goal (absolute calming).

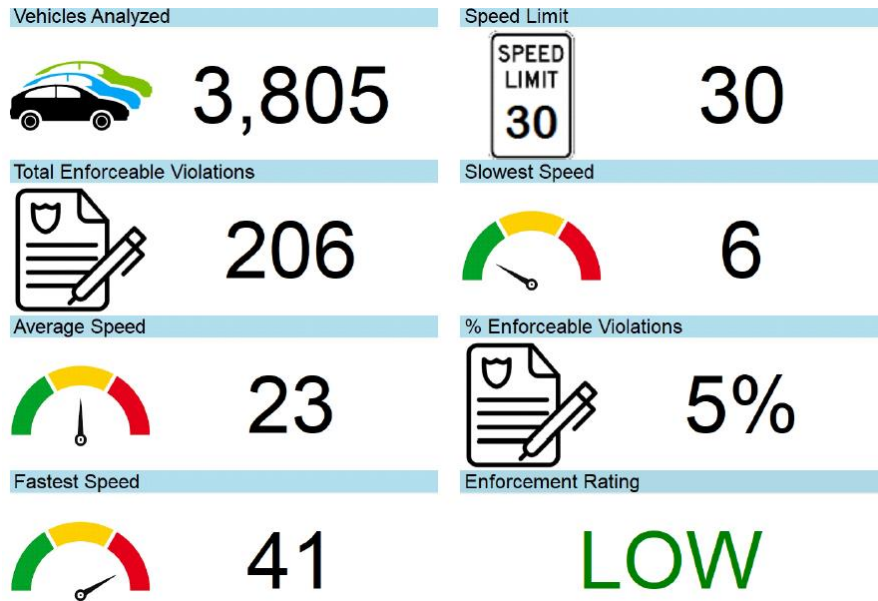


Figure B-3. Upon citizen request, LRPD is able to do a speed study of a corridor and presents their data in a user-friendly report.

Increased Crosswalk Use

Does the infrastructure encourage more people to walk from their cars to ADH and UAMS? We will install trail cameras at each of the crosswalks during peak hour use (when people are getting to work and going home from work) before the pop-up is installed, during the pop-up, and after the pop-up (the last to see if the pop-up instilled habits that continued after the protective infrastructure was removed).

Decreased Shuttle Use

It stands to reason that if more people are taking the crosswalks, fewer people are using the shuttle. However, we will seek to measure that by asking if shuttle drivers can count users before and during the pop-up or if we can install a camera to count shuttle users ourselves.

Pedestrian Assertiveness

Do pedestrians feel more comfortable stepping into the crosswalk when a car is approaching when pop-up infrastructure is in place than they did before? We will install trail cameras at each of the crosswalks during peak hour use (when people are getting to work and going home from work) before the pop-up is installed, during the pop-up, and after the pop-up (the last to see if the pop-up instilled habits that continued after the protective infrastructure was removed).

Pedestrian Comfort

Do people feel safer using the crosswalks during the pop-up vs. before? We will ask them on a survey instrument distributed by ADH and UAMS as well as in a field survey crosswalk users can access from a QR code on a sign by the crosswalks.

We will also answer this by crosswalk user body language. How often do people break into a jog when using the crosswalk?

Crosswalk Yield Compliance

Does the pop-up encourage drivers to yield to pedestrians more often? We will set up cameras during peak hour and find out.

Feasibility

When we submit our proposed pop-up to the City, we may either be approved, approved contingent on changes, or not approved. If we are approved contingent on changes based on the feasibility of the pop-up or the ultimate design it demonstrates, that will help us propose a facility that is more feasible to implement.

Handicapped Access

There's no question that the infrastructure modeled in the pop-up would increase handicapped accessibility along and across Monroe. The two benefits of the pop-up will be to illustrate the lack of pedestrian accessibility to able-bodied users and to get feedback from the disabled community about how these corridors could be designed even better than we are imagining in order to serve their needs. To accomplish these objectives, we will invite disability rights members to 1) review and comment on our proposed design and pop-up to see if they have any edits, 2) educate able-bodied users before and during the pop-up, and 3) during the pop-up, see if they have any proposed edits and determine their satisfaction with the proposed changes.

Parking Acceptance

I expect that losing three parking spots at Crosswalk #4 would be more than made up for by gaining 42 parallel parking spots along Monroe, but public opinion is not always intuitive. By distributing a survey, and having that survey accessible with a QR code on signage, we can get a better idea of what people think about the proposed parking alternatives in the corridor.

Road Diet Acceptance

Because of the low traffic volumes on Monroe, and the many benefits of a road diet, we expect that people will view the road diet positively, however public opinion is not always intuitive. Perhaps there are traffic issues at peak hour. By asking people in a survey what they think about the road diet, we will better understand how people like/don't like it.

Permanent Facilities

Is some version of the pop-up actually installed as permanent facilities?

Budget

White, silver, and yellow duct tape (to alter lane geometry and create 2 crosswalks)	\$650
Utility Flags (U Line, extra for replacement of lost/stolen) 700 for Jonesboro Children's Trail 300 for sidewalk alignment	\$120
Tires and straw bales (to protect curb extensions & islands and prevent parking)	\$350
Sidewalk Chalk (to decorate curb extensions and islands)	\$50
White striping paint, glass beads, crosswalk stencil (to create permanent crosswalks at Crosswalks #1 and #5)	\$450
Wheelchair rental	\$330
4' x 8' plywood and 2x6x8 boards (to create 7 ADA ramps)	\$230
Five Trail cameras (to measure crosswalk activity, \$400)	\$600
Silver retroreflective spray paint (to make straw bales and tires more visible)	\$120
Two Speed limit 25mph signs	\$100
Cones, signs, truck with flashing lights (for traffic control to protect people setting up the pop-up)	in-kind match from City
Speed camera equipment and set up (to determine the pop-up's effect on vehicular speed in the corridor)	in-kind match from LRPD
Total	\$3000
ADH Match	\$1500
Requested from America Walks	\$1500