

CHAPTER 6 : TRAFFIC ANALYSIS

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CENTER
LANE
ONLY



Introduction

A traffic analysis for Hal Greer Boulevard was conducted as part of the Corridor Plan. This analysis examined the volume, turning movements, and performance of the roadway from the northern limit of 3rd Avenue to the southern limit of Highlander Way which is just south of the interchange with I-64. The study examined the need and effects of various concepts for multi-modal enhancements and traffic calming along the corridor within the study area, including establishing an accurate baseline conditions using data collected in December 2018 and January 2019. The study area carries a mix of local and some regional traffic, connecting to businesses, neighborhoods, and several major destinations – Marshall University, Cabell-Huntington Hospital, Kinetic Park, downtown, and Interstate 64. Hal Greer Boulevard is federally classified as a principle arterial and state classified as a trunkline. The existing conditions analysis was modeled using Transmodeler® traffic simulation software® to provide system-wide performance measures. These performance measures were used to evaluate and compare existing and future traffic conditions for alternatives.

Note: For a detailed summary of the Traffic Analysis, please see the digital appendix.

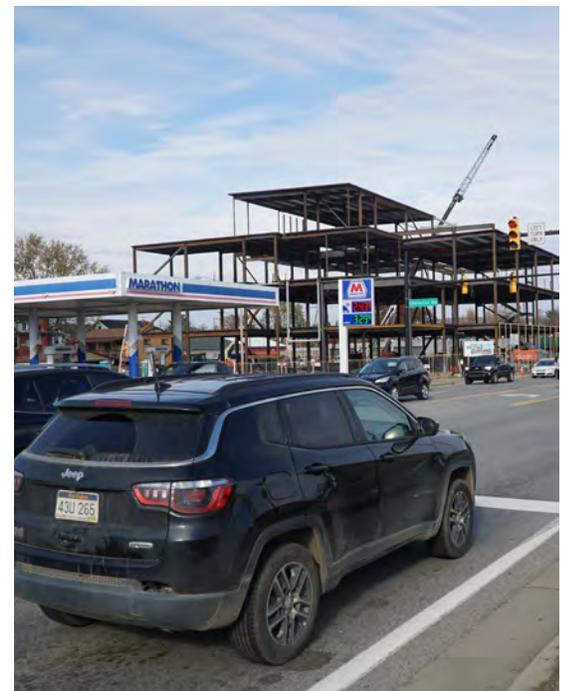
Definitions

Trunklines — intrastate network intended to serve smaller cities

Principal Arterial — An arterial road or arterial thoroughfare is a high-capacity urban road. The primary function of an arterial road is to deliver traffic from collector roads to freeways or expressways, and between urban centers at the highest level of service possible.



A view of Washington Blvd intersection with cars traveling through.



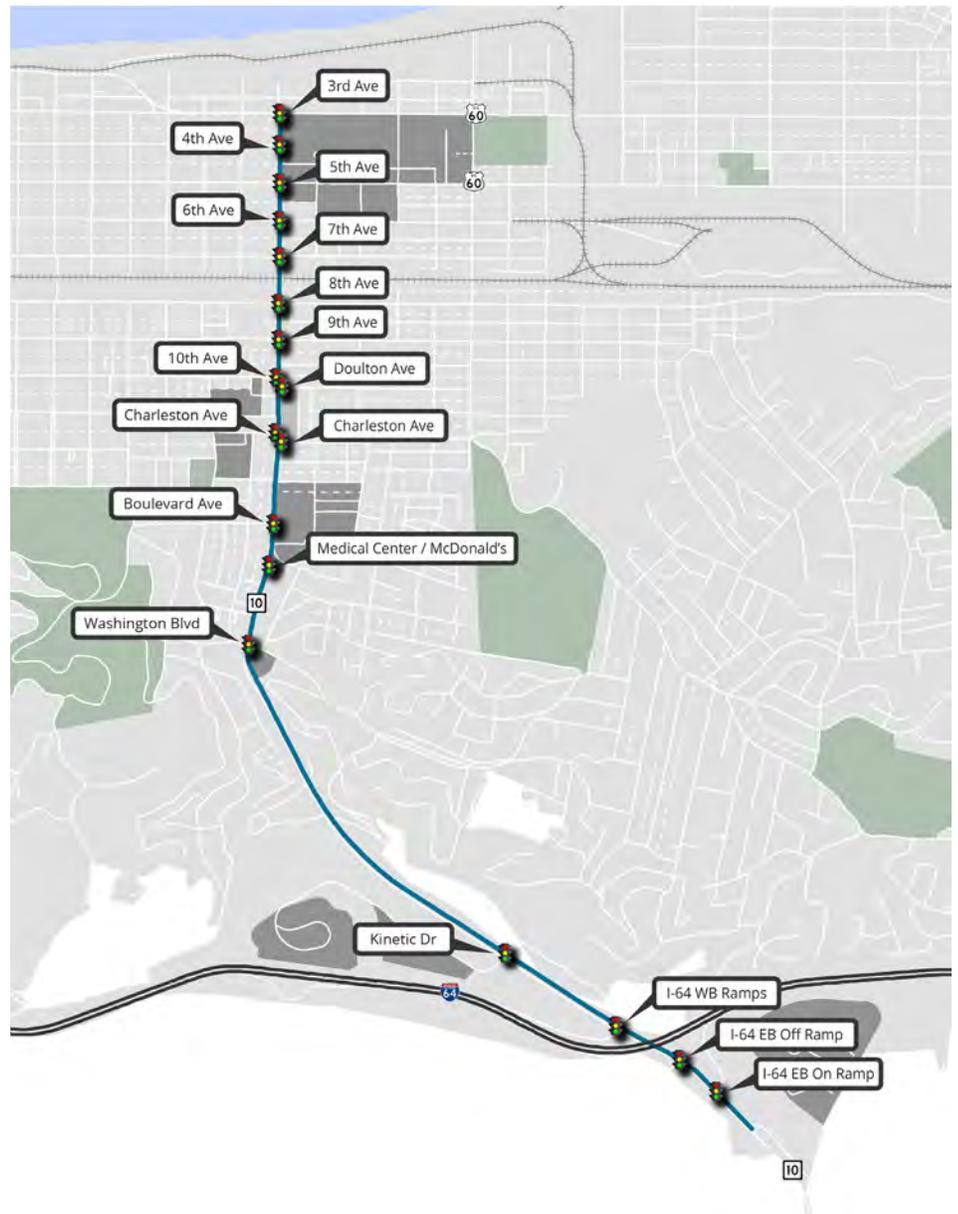
The Charleston Ave intersection during a red light phase.

Data Collection

24-hour traffic count data was collected for 18 intersections along the corridor which included intersection turning movement counts, hourly directional volumes, and vehicle classification counts. Roadway geometric data was collected from field visits and available aerial satellite imagery. Traffic signal timing and phasing were provided by WVDOH for some of the intersections or was collected from a stopwatch while observing video recordings or field observation during applicable peak hours. Using this data, morning and afternoon peak hours were determined to occur from 7:15 am to 8:15 am and from 4:30 pm to 5:30 pm.

The intersections where traffic data collection occurred are where the following streets meet or cross Hal Greer Boulevard:

- 3rd Avenue
- 4th Avenue
- 5th Avenue
- 6th Avenue
- 7th Avenue
- 8th Avenue
- 9th Avenue
- 10th Avenue / Doulton Avenue
- Charleston Avenue (north) / Charleston Avenue (south)
- Columbia Avenue
- Boulevard Avenue
- Medical Center / McDonald's
- Washington Boulevard
- Kinetic Drive
- Interstate 64 Westbound Off Ramp
- Interstate 64 Eastbound Off Ramp
- Interstate 64 Eastbound On Ramp



MAP 6.1: LOCATION OF SIGNALIZED INTERSECTIONS

Level of Service

Level of service (LOS) is a qualitative measure describing operational conditions of a roadway or intersection, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Specifically, LOS for signalized intersections is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including

signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. **Table 6.1** summarizes the LOS criteria for signalized intersections, as described in the Highway Capacity Manual 6th Edition (Transportation Research Board, 2016). There are six levels of service, having letter grades A through F. LOS A is associated with free-flow conditions, high freedom to maneuver, and little or no delay. Conditions at or near capacity typically are associated with LOS E. At LOS F, traffic conditions are oversaturated and exceed capacity, with low travel speeds, little or no freedom to maneuver, and high delays. In urban areas, LOS D or better is desirable.

Roadways with higher level of service for vehicular traffic do not necessarily translate to higher level of service for pedestrians or cyclists. Often, roadways that perform well for vehicles perform poorly for pedestrians and cyclists. When drivers feel more comfortable in their vehicles, they are more prone to distraction and speeding, which creates a lack of comfort for the pedestrian. In order to find a balance in the comfort of the driver and the pedestrian, LOS C or D are preferred.

TABLE 6.1: LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service	Average Control Delay (seconds/vehicle)	General Descriptions
A	≤ 10	Free Flow
B	> 10 – 20	Stable Flow (slight delays)
C	> 20 – 35	Stable Flow (acceptable delays)
D	> 35 – 55	Approaching Unstable Flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	> 55 – 80	Unstable Flow (intolerable delay)
F ¹	> 80	Forced Flow (congested and queues fail to clear)

Source: Highway Capacity Manual 2010, Transportation Research Board, 2010.

1. If the volume-to-capacity (V/C) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

Simulation Model

The simulation model, developed from both existing data and newly collected data, was calibrated and run with multiple iterations to achieve the outputs presented here. First, existing conditions were run to establish a base line. Secondly, the future model was projected using an assumed traffic growth rate agreed upon by Stantec, WVDOH, and KYOVA forecasted for the year 2035. This future model was based on no changes to the corridor. Next, the conceptual design for Hal Greer Boulevard (detailed in **Chapter 7: Mobility & Urban Design Recommendations**) was applied to the base year model. Lastly, the conceptual design was applied to the future year model.

BASE LINE MODEL

Morning Peak Base Line Conditions

The A.M. peak hour model indicates that queues develop for the northbound approach for Hal Greer

Boulevard at the signalized intersection of Washington Boulevard and in the vicinity of the Medical Center. Delays increase when the available green interval for the northbound Hal Greer Boulevard approach is reduced by the increase in vehicular traffic on the Washington Boulevard approaches and the westbound approach from the Medical Center. The pedestrian indications crossing Hal Greer Boulevard at the intersections with Boulevard Avenue and with 4th Avenue are exclusive which means that all vehicular movements are prohibited during the pedestrian walk time and clearance time. Exclusive pedestrian indications provide a higher level of safety for crossing a signalized intersection than when the pedestrian indications operate concurrently with a parallel vehicular phase, but the operation of the signal may be less efficient for vehicles. In the simulation model, the exclusive pedestrian phase was modeled to be actuated every cycle of the signal. During the A.M. peak, a LOS D or better was achieved for all approaches on Hal Greer Boulevard with most approaches achieving a LOS B or better.

TABLE 6.2: 2018 EXISTING AM PEAK

Intersection	Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3rd Ave	13.5	B	14.3	B	20.1	C			13.2	B
4th Ave	14.6	B	16.7	B	10.4	B	18.6	B		
5th Ave	12.8	B	3.9	A	13.8	B	16.0	B		
6th Ave	11.7	B	7.1	A	16.4	B	12.7	B	14.2	B
7th Ave	8.4	A	8.7	A	4.9	A	8.9	A	19.3	B
8th Ave	13.4	B	10.0	B	5.5	A	20.3	C	21.1	C
9th Ave	8.0	A	4.0	A	2.2	A	25.0	C	29.0	C
10th Ave	4.5	A	2.3	A	4.6	A	29.4	C		
Doulton Ave	3.4	A	3.4	A	1.6	A			43.5	D
Charleston Ave (north)	8.1	A	2.8	A	8.6	A	49.7	D		
Charleston Ave (south)	9.9	A	12.4	B	2.1	A			54.9	D
Boulevard Ave	8.2	A	7.3	A	4.9	A	17.7	B		
Medical Center/McDonald's	38.7	D	49.0	D	21.0	C	34.2	C	49.0	D
Washington Blvd	39.1	D	34.9	C	24.7	C	59.1	E	46.5	D
Kinetic Dr	11.6	B	9.9	A	9.3	A	28.9	C	31.0	C
I-64 WB Off Ramp	9.0	A	3.4	A	10.5	B			44.9	D
I-64 EB Off Ramp	10.2	B	2.8	A	6.7	A	27.0	C		
I-64 EB On Ramp	8.6	A	6.2	A	10.7	B				

Afternoon Peak Base Line Conditions

The P.M. peak hour model indicates that queues develop for the northbound approach for Hal Greer Boulevard at the signalized intersection of 4th Avenue and in the vicinity of the Medical Center. At 4th Avenue, delays increase when the available green interval for the northbound Hal Greer Boulevard approach is reduced by frequent pedestrian actuations. The model and field observation indicate that vehicle(s) turning left from Hal Greer Boulevard onto westbound 4th Avenue, which does not have a dedicated left-turn lane, will block the leftmost northbound through lane thereby acting as a de-facto left-turn lane. In this scenario all through traffic is subsequently metered into the single rightmost through lane. The same scenario exists at the intersections of Hal Greer Boulevard with 7th Avenue and with 8th Avenue. In the simulation model, the exclusive pedestrian phase at 4th Avenue

was modeled to be actuated every cycle of the signal. The LOS for northbound Hal Greer Boulevard at 4th Avenue is a D. The southbound direction of Hal Greer Boulevard does not experience the same level of delay as the northbound direction for the P.M. peak period. During the P.M. peak, a LOS D or better was achieved for all approaches on Hal Greer Boulevard with most approaches achieving a LOS B or better.

Signalized intersections in close proximity are commonly coordinated with the goal of providing smooth traffic flow in order to reduce travel times, stops, and delay. However, the traffic signals on Hal Greer Boulevard within the study area do not operate within the realm of a coordinated signal system. Longer delays for side-street approaches are expected. A LOS E or worse for a side-street approach may be acceptable if motorists do not have to wait through multiple cycles of a signal to proceed from the side-street.

TABLE 6.3: 2018 EXISTING PM PEAK

Intersection	Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3rd Ave	16.2	B	30.3	C	17.7	B			13.6	B
4th Ave	30.9	C	47.4	D	21.7	C	19.9	B		
5th Ave	13.6	B	11.6	B	7.9	A	16.0	B		
6th Ave	11.8	B	9.1	A	12.3	B	12.7	B	15.7	B
7th Ave	11.0	B	10.6	B	10.2	B	10.9	B	19.2	B
8th Ave	11.8	B	10.2	B	5.4	A	19.7	B	20.3	C
9th Ave	10.0	B	5.5	A	2.2	A	29.8	C	30.7	C
10th Ave	5.4	A	2.2	A	5.8	A	33.8	C		
Doulton Ave	2.9	A	3.0	A	1.2	A			32.1	C
Charleston Ave (north)	9.3	A	1.8	A	9.6	A	48.5	D		
Charleston Ave (south)	10.7	B	16.9	B	1.3	A			52.0	D
Boulevard Ave	3.9	A	3.4	A	3.0	A	26.8	C		
Medical Center/McDonald's	27.5	C	44.2	D	7.7	A	23.6	C	65.9	E
Washington Blvd	32.2	C	25.1	C	26.4	C	46.6	D	42.0	D
Kinetic Dr	16.4	B	10.4	B	10.5	B	38.2	D	47.1	D
I-64 WB Off Ramp	15.5	B	6.7	A	15.7	B			54.8	D
I-64 EB Off Ramp	13.3	B	10.8	B	6.4	A	35.2	D		
I-64 EB On Ramp	9.9	A	17.2	B	7.8	A				

FUTURE NO BUILD MODEL

Future year A.M. and P.M. peaks were modeled with no change to the street system based on an assumed annual growth rate of 0.8% for the entire corridor. The growth rates were agreed to by WVDOH and are summarized in **Table 6.4** with annual growth factors and 17-year growth factors.

In the future model, the delays and associated LOS for the A.M. and P.M. peaks degrade slightly for both northbound and southbound Hal Greer Boulevard particularly at the intersections in the vicinity of the Medical Center and Washington Boulevard intersections. Delays and associated LOS for the P.M.

peak degrade significantly for northbound Hal Greer Boulevard at the intersection of 4th Avenue. The model and field observation indicate that vehicle(s) turning left from an intersection on Hal Greer Boulevard that does not have a dedicated left-turn lane will block the leftmost through lane thereby acting as a de-facto left-turn lane. In this scenario northbound through traffic can only proceed in the rightmost through lane. The delays and associated LOS for the A.M. and P.M. peak hour for both northbound and southbound Hal Greer Boulevard remain relatively unchanged for other intersections on the corridor. Side street delays also increase modestly for all approaches particularly in the vicinity of the Medical Center and for eastbound Washington Boulevard.

TABLE 6.4: GROWTH RATES

Hal Greer Blvd	Growth Rate per Year	Annual Growth Factor	17-year Growth Factor
3RD AVE. – HIGHLANDER WAY	0.008	1.008	1.15

TABLE 6.5: 2035 NO BUILD AM PEAK

Intersection	Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3rd Ave	13.7	B	14.2	B	21.0	C			13.5	B
4th Ave	14.2	B	15.8	B	10.7	B	19.1	B		
5th Ave	12.9	B	3.6	A	14.8	B	16.0	B		
6th Ave	11.3	B	6.6	A	15.9	B	13.1	B	13.7	B
7th Ave	8.6	A	8.6	A	5.1	A	10.5	B	18.2	B
8th Ave	14.6	B	11.1	B	7.0	A	20.4	C	22.7	C
9th Ave	8.2	A	4.8	A	2.6	A	24.1	C	27.3	C
10th Ave	4.5	A	2.2	A	4.8	A	28.8	C		
Doulton Ave	3.6	A	4.0	A	1.5	A			41.1	D
Charleston Ave (north)	8.4	A	2.7	A	10.1	B	45.8	D		
Charleston Ave (south)	11.0	B	15.2	B	2.1	A			54.8	D
Boulevard Ave	8.1	A	5.1	A	8.6	A	14.8	B		
Medical Center/McDonald's	40.7	D	52.1	D	21.7	C	30.2	C	49.2	D
Washington Blvd	44.3	D	43.2	D	25.6	C	67.3	E	48.9	D
Kinetic Dr	12.4	B	10.3	B	11.2	B	28.9	C	31.6	C
I-64 WB Off Ramp	10.6	B	5.0	A	13.0	B			42.1	D
I-64 EB Off Ramp	10.4	B	3.0	A	7.7	A	26.5	C		
I-64 EB On Ramp	8.7	A	6.3	A	10.9	B				



A view of Hal Greer along the northernmost section before Marshall University.

Intersection	Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3rd Ave	16.5	B	30.8	C	16.9	B			13.6	B
4th Ave	34.9	C	60.1	E	25.0	C	19.7	B		
5th Ave	13.0	B	12.1	B	4.6	A	15.5	B		
6th Ave	12.7	B	10.2	B	13.5	B	13.1	B	15.7	B
7th Ave	12.4	B	14.1	B	10.0	B	11.6	B	19.8	B
8th Ave	12.8	B	10.9	B	6.9	A	20.2	C	20.8	C
9th Ave	11.4	B	6.5	A	2.6	A	34.4	C	34.9	C
10th Ave	6.0	A	2.2	A	6.6	A	34.2	C		
Doulton Ave	2.9	A	2.9	A	1.2	A			34.3	C
Charleston Ave (north)	9.4	A	1.8	A	10.4	B	45.0	D		
Charleston Ave (south)	11.4	B	18.2	B	1.4	A			53.0	D
Boulevard Ave	7.7	A	3.2	A	9.5	A	19.0	B		
Medical Center/McDonald's	29.6	C	47.9	D	8.2	A	26.2	C	60.6	E
Washington Blvd	43.6	D	32.6	C	35.1	D	74.0	E	42.7	D
Kinetic Dr	20.5	C	11.3	B	12.8	B	48.6	D	69.5	E
I-64 WB Off Ramp	13.9	B	4.9	A	14.9	B			52.8	D
I-64 EB Off Ramp	17.2	B	14.8	B	10.1	B	38.8	D		
I-64 EB On Ramp	11.6	B	17.2	B	9.6	A				

Evaluation of Concepts

Various concepts for enhancing the complete streets environment were developed including a roadway reconfiguration between 3rd Avenue and 8th Avenue. This reconfiguration involves conducting a road diet – converting the existing four-lane undivided roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane. Road diets create the opportunity for pedestrian refuge islands, curb bump outs, a bicycle path, on-street parking, a reduction in crosswalk width, and traffic calming to encourage more consistent speeds.

Road diets are a proven safety countermeasure according to the Federal Highway Administration (FHWA) with an expected reduction in total crashes of 19 – 47%. Another benefit of this roadway reconfiguration is the addition of a left-turn lane for the mainline approaches of signalized intersections.

Before Road Diet



After Road Diet



Both of these cross sections are of the same roadway. By re-purposing the space between the curb, more use and improved streetscape is obtained without a great impact to level of service. This illustrates a Road Diet.

Realigning the offset signalized intersections at Hal Greer Boulevard at Charleston Avenue and Hal Greer Boulevard at 10th Avenue / Doulton Avenue was also proposed. The complicated traffic signal phasing in the existing intersection is not conducive for pedestrians attempting to cross and leads to cars 'stuck' in the dead space between the two signals. The proposed concept results in a more direct pedestrian crossing. The realignment results in a more traditional and efficient traffic signal phasing included conversion of the protected-only left turn phasing from Hal Greer Boulevard to protected-permissive left turn phasing. The future built run of the traffic simulation model indicates that this realignment would reduce delays and improve the level of service for the Hall Greer Boulevard approaches.



The offset intersections at Charleston Avenue allow for unsafe pedestrian crossing patterns -- realigning the roadway can address this safety issue.

Several signal phasing concepts were proposed for signalized intersections along Hal Greer, including right-turn overlaps. A right-turn overlap is a right-turn arrow traffic signal indication for a dedicated right-turn lane which is displayed green when a non-conflicting left-turn movement is also displayed a green arrow and reduces the number of right-on-red turning movements. Currently, the right-turn movement from eastbound Washington Boulevard to southbound Hal Greer Boulevard is prohibited from turning right-on-red weekdays from 7:00 to 8:00 A.M. and 2:00 to 3:00 P.M. by a regulatory sign mounted on the signal span. The addition of a right-turn overlap for eastbound Washington Boulevard onto southbound Hal Greer Boulevard would improve the efficiency of the intersection by providing additional opportunity for right-turning motorists to clear particularly during periods of time when the right-turn-on-red movement is otherwise prohibited.



A right-turn overlap signal phase example shown at the Washington Blvd intersection.

Right-turn overlaps are proposed for the following approaches:

- ❑ Eastbound Washington Boulevard to southbound Hal Greer Boulevard
- ❑ Westbound Medical Center to northbound Hal Greer Boulevard
- ❑ Westbound 8th Avenue to northbound Hal Greer Boulevard
- ❑ Eastbound 4th Avenue to southbound Hal Greer Boulevard

Additionally, new coordinated traffic signal timing plans were developed and incorporated into the future traffic simulation model. The existing traffic signals on Hal Greer do not currently operate within the realm of a coordinated signal system. Signalized intersections in close proximity are commonly coordinated with the goal of providing smooth traffic flow in order to reduce travel times, stops, and delay.

In the future model, the delays and associated LOS for the A.M. and P.M. peaks indicate a modest improvement for most intersections and significant improvements at the intersection of 4th Avenue compared to the existing results. There will continue to be delays in the A.M. and P.M. peak periods in the vicinity of the Medical Center due to the high volume of traffic entering and exiting the property. A LOS D or better is achieved for all approaches on Hal Greer Boulevard with most approaches achieving a LOS B or better. The side street delays are relatively unchanged, and it would be expected that the traffic signal would clear all waiting queues from those approaches in a single cycle.

TABLE 6.7: 2035 AM PEAK – PROPOSED CONCEPTS

Intersection	Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3rd Ave	10.8	B	14.3	B	17.2	B			10.1	B
4th Ave	9.2	A	7.5	A	6.1	A	23.7	C		
5th Ave	13.0	B	8.6	A	6.7	A	16.3	B		
6th Ave	10.2	B	6.2	A	9.5	A	15.2	B	16.2	B
7th Ave	9.8	A	9.6	A	5.1	A	11.8	B	24.3	C
8th Ave	17.6	B	9.3	A	11.0	B	25.7	C	28.3	C
9th Ave	18.1	B	19.3	B	13.7	B	26.6	C	22.0	C
10th Ave/Doulton Ave	7.6	A	7.3	A	4.8	A	29.0	C	46.2	D
Charleston Ave	16.4	B	15.3	B	13.3	B	27.5	C	43.2	D
Boulevard Ave	10.1	B	4.0	A	15.9	B	16.3	B		
Medical Center/McDonald's	15.9	B	10.5	B	15.3	B	34.9	C	37.7	D
Washington Blvd	39.3	D	38.9	D	37.1	D	41.3	D	41.4	D
Kinetic Dr	13.8	B	11.4	B	13.4	B	29.5	C	33.0	C
I-64 WB Off Ramp	5.6	A	3.0	A	3.3	A			36.3	D
I-64 EB Off Ramp	7.7	A	0.9	A	3.2	A	24.9	C		
I-64 EB On Ramp	6.7	A	7.0	A	6.3	A				

TABLE 6.8: 2035 PM PEAK – PROPOSED CONCEPTS

Intersection	Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3rd Ave	17.4	B	14.7	B	15.1	B			18.1	B
4th Ave	12.8	B	9.6	A	11.9	B	21.8	C		
5th Ave	14.2	B	13.4	B	7.5	A	16.5	B		
6th Ave	13.1	B	12.7	B	8.9	A	15.4	B	18.9	B
7th Ave	11.9	B	13.0	B	6.8	A	14.8	B	31.6	C
8th Ave	16.4	B	7.6	A	12.9	B	29.2	C	28.1	C
9th Ave	16.6	B	17.3	B	12.7	B	25.0	C	20.3	C
10th Ave/Doulton Ave	7.8	A	6.2	A	5.5	A	35.6	D	33.6	C
Charleston Ave	12.4	B	8.5	A	10.1	B	33.4	C	30.1	C
Boulevard Ave	11.8	B	5.4	A	15.2	B	24.8	C		
Medical Center/McDonald's	29.2	C	26.3	C	32.4	C	32.1	C	26.7	C
Washington Blvd	47.3	D	50.2	D	40.3	D	57.0	E	45.0	D
Kinetic Dr	25.7	C	23.8	C	21.2	C	40.0	D	42.7	D
I-64 WB Off Ramp	4.9	A	1.0	A	3.2	A			54.3	D
I-64 EB Off Ramp	12.8	B	0.5	A	6.9	A	39.5	D		
I-64 EB On Ramp	10.5	B	18.7	B	8.1	A				

Conclusions

The FHWA advises that roadways with ADT of 20,000 vehicles per day or less may be good candidates for a Road Reconfiguration. The section of Hal Greer Boulevard between 3rd Avenue and 8th Avenue has an ADT between 8,000 and 10,000 vehicle per day making it a valid candidate for a road diet. Further analysis demonstrates operational benefits of separating left-turning vehicles which reduces delays at signalized intersections and a more consistent travel speed with less stop-and-go operations. New left-turn traffic signal indications are recommended for new left-turn lanes at signalized intersections.

The following chapter presents in detail the recommendations for Hal Greer Boulevard. Major changes include the road diet in the northernmost segment, road realignments, intersection redesigns, and improved signal timing and coordination. When these changes were applied to the traffic simulation model, the results indicated that the construction and installation of these improvements would not adversely affect and in some instance reduce the delays and improve the level of service.

*As a result, overall corridor delay is envisioned to be reduced by **12% - 15%** with the proposed roadway improvements.*

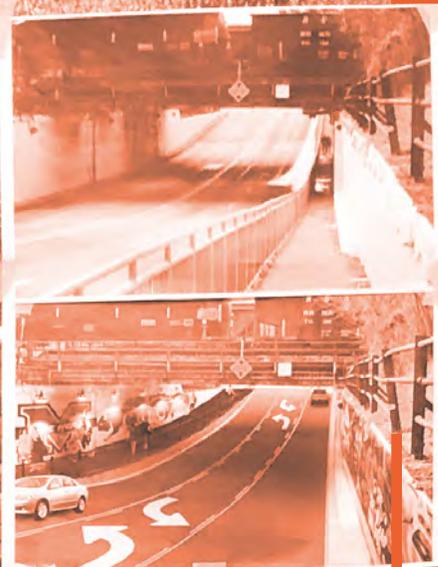
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	SB	NB	SB	NB
EXISTING CONDITIONS	2m 21 s	1m 21s	1m 41s	2m 28s
PROPOSED CONCEPT DESIGN	2m 2s	1m 37s	2m 9s	1m 50s



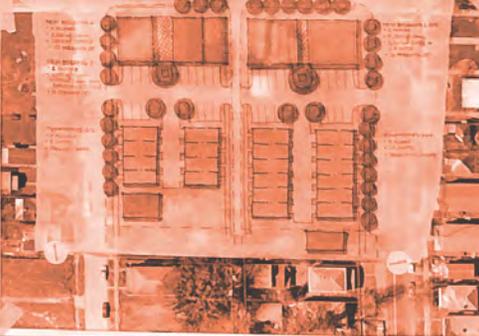
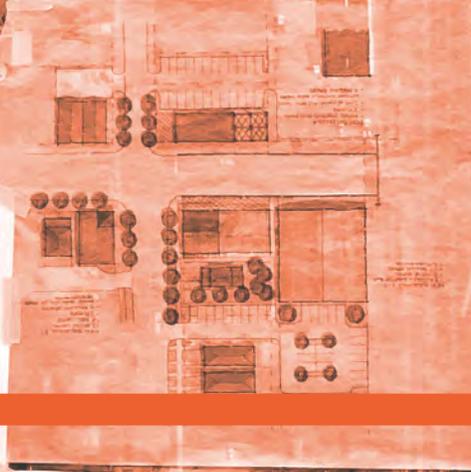
CHAPTER 7: MOBILITY & URBAN DESIGN RECOMMENDATIONS

109	MOBILITY & COMPLETE STREETS
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142	CATALYST SITES

to Doulton)



BREWERY, ROOFTOP RESTAURANT AND BEER GARDEN



d Base



CULTURAL TRAIL / HIGHWAY MARK



PEDESTRIAN SCALE LIGHTING - BRANDING



Mobility & Complete Streets

The concept design for Hal Greer Boulevard was developed after months of analysis, communication with the Advisory Committee, WVDOH, KYOVA, and the City of Huntington, as well as Marshall University and Cabell-Huntington Hospital, and multiple opportunities for community engagement. These efforts led to the creation of the Guiding Principles, which were additionally influenced by the Complete Streets and Green Streets planning themes. Overall, there were strong desires for improving pedestrian safety and access, establishing cyclist connectivity, making vehicular movement more predictable, encouraging redevelopment that suites the needs of the community, cultivating an aesthetically pleasing sense of place, and incorporating best management practices for stormwater and drainage issues along the corridor. These general ideas were spatially grounded along the corridor after a series of mapping exercises with project leadership, committee members, focus groups, online respondents, and public meeting participants, resulting in the **Preferred Access Plan** on page 112.

RESPONDING DIRECTLY TO THE GUIDING PRINCIPLES

Key themes were used in the planning and design of the Hal Greer Boulevard concept design. These are reflected in the guiding principles that were developed through the study of previous plans and the public engagement process.

Principle #1: Pedestrian and Bicyclist Considerations Should Be a Priority

- ❑ Improved crossing conditions, new sidewalk connections, multiuse paths, and cycle tracks are added where possible to ensure active transportation has a place along the corridor.

Principle #2: The Safety of All Users is Critical

- ❑ Key mid-block locations were chosen to accommodate heavy pedestrian use with pedestrian refuges, pedestrian scale lighting, ADA ramps, and crossing flashers.
- ❑ Using better access management practices were incorporated to better control turning movements.

Principle #3: Stormwater Issues Must Be Considered

- ❑ Green street practices were incorporated where possible, including rain gardens, planter boxes, and permeable pavements, both in the public right-of-way and recommended for adjacent properties.

Principle #4: Supporting Quality Development/Redevelopment

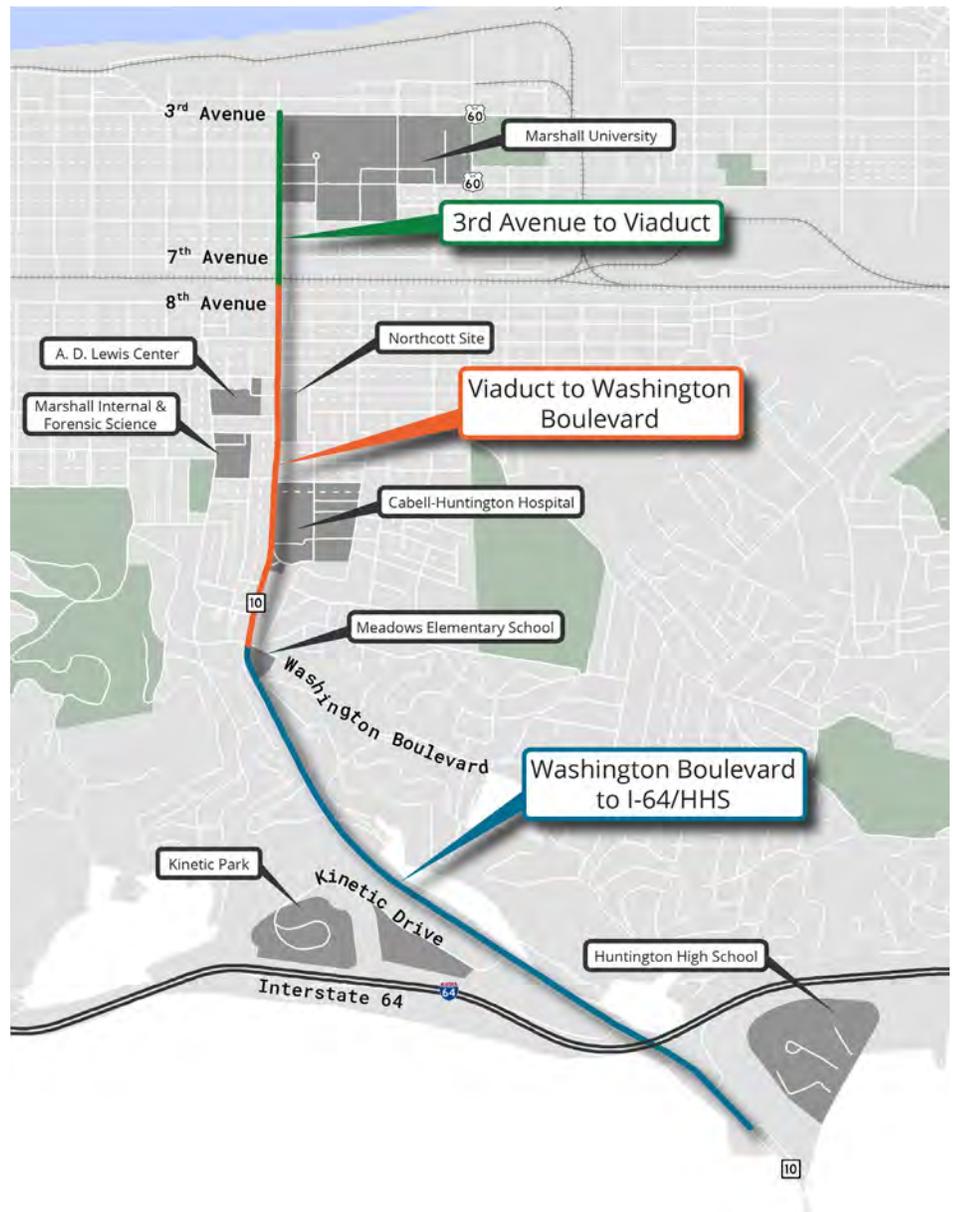
- ❑ Utilizing sidewalk, crossing, multiuse path, and cycle track connections.
- ❑ Creating walkable residential and active ground floor retail is encouraged along the corridor.

Principle #5: A Boulevard for Everyone

- ❑ Zoning, new development, wayfinding and public art should reflect a dedication to preserving the history, and fabric, and protecting the physical and socioeconomic mobility of the community.

TRANSITION ZONES

Three transition zones were identified in the **Corridor Characteristics** section in Chapter 1. These zones were separated by the distinctly different character of Hal Greer Boulevard that exists for each segment. Each serves a different primary function, and each required a different design approach. The concept design reflects this, providing a unique conceptual cross section for each segment. It is important to note that though each zone is unique, the three of them combined make up the Hal Greer Corridor and must transition into each other seamlessly.



Map 1.1 on page 8: Hal Greer Boulevard Transition Zones

Marshall Way:
C&O Viaduct to 3rd Avenue

- Length: 0.45 miles
- 2015 AADT: 19,365
- Crashes (2013-2017): 169



Aerial map of the northernmost and shortest segment of Hal Greer Blvd.



Trains sit on the viaduct as vehicles and pedestrian pass underneath.

Fairfield Innovation District:
Washington Blvd to the C&O Viaduct

- Length: 0.88 miles
- 2015 AADT: 25,501
- Crashes (2013-2017): 296



Aerial map of the middle segment of Hal Greer Blvd.



Signaled intersections of 10th and Doulton are roughly 100 feet apart.

Kinetic Byway:
I-64/HHS to Washington Blvd

- Length: 1.94 miles
- 2015 AADT: 24,913
- Crashes (2013-2017): 191



Aerial map of the southernmost segment of Hal Greer Blvd.



With posted speeds of 35 to 55 mph, this segment is very much a highway.

PREFERRED ACCESS PLAN

The Preferred Access Plan provided the basis for the design from a broad, overall viewpoint. Looking at the corridor holistically, it utilized the key takeaways and guiding principles that were gleaned from the engagement process and combined them with the design considerations from the plan and policy review. The resulting Preferred Access Plan illustrates the overall access management, connectivity and key nodal points.

It combines the design considerations from the Plan Review process, feedback from the Advisory Committee and public engagement from the launch of the website to the project symposium. Two major focus areas for the redesign of Hal Greer Boulevard were to a) improve the pedestrian and cyclist connectivity of the corridor and b) create gateways to set the tone for the aesthetics and functionality of each segment, and to create a sense of arrival and place for users traveling the roadway.

-  **Gateway Treatments** (ie. branding, entryway, traffic calming, welcome.)
-  **High-Quality Intersection** (ie. high visibility crosswalk, ped countdowns, street trees, ADA, ped level lighting.)
-  **Pedestrian Crossing**
-  **Potential Planted Median**
-  **Pedestrian Safety Focus Area**
-  **Complete Streets Focus Area**
-  **Separated Bike Way**
-  **Greenway Connections**

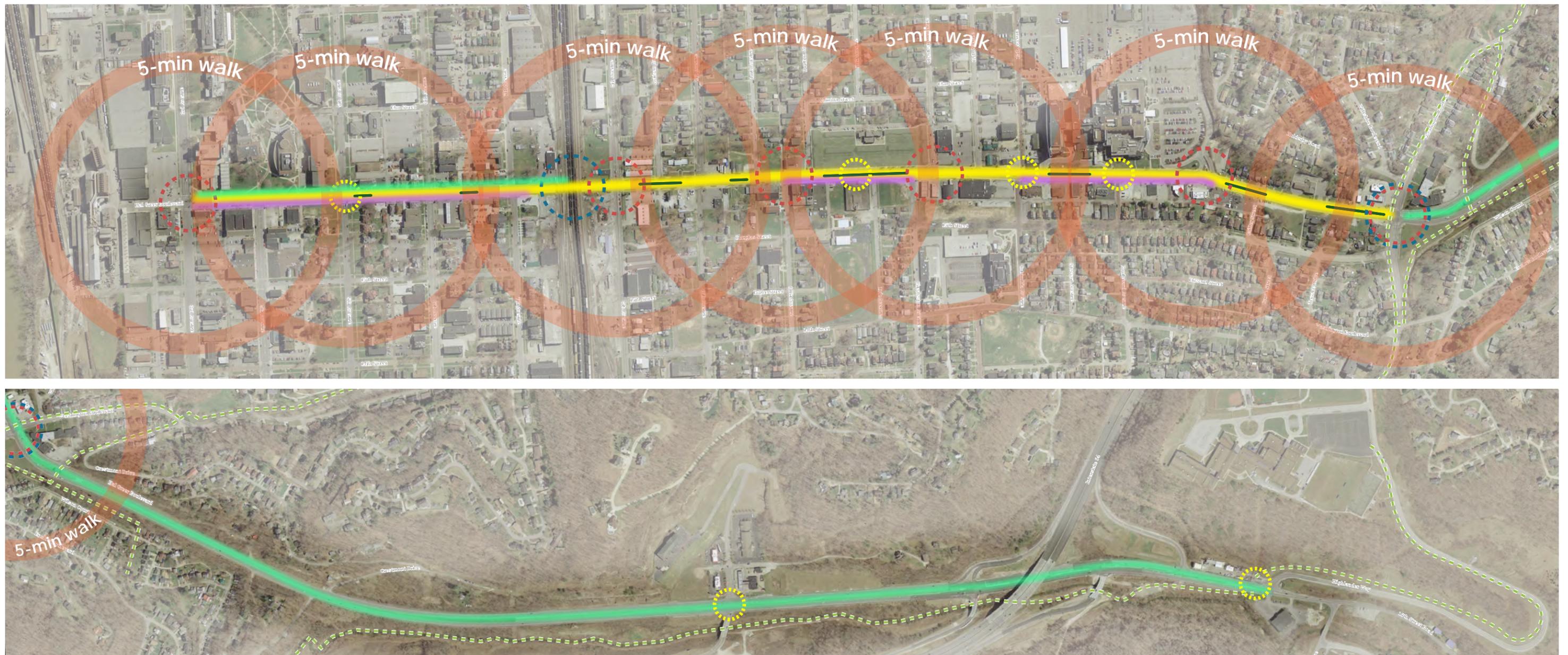


FIGURE 7.1: PREFERRED ACCESS PLAN

Additional criteria were used when designing the improvements to Hal Greer Boulevard:

- ❑ Design Speed: 25 mph (Marshall Way), 35 mph (Fairfield District), 35-45 mph (Kinetic Byway)
- ❑ Travel Lanes width: 11 ft
- ❑ Cross Slope: 2%
- ❑ Multiuse Path: 10 ft wide for bicycle and pedestrian use, protected by a concrete jersey barrier in areas where speeds are 45 mph or greater (Highway Transition Zone)
- ❑ Cycle Track: 2-way track, protected by parallel parking and curbing (Marshall Way)
- ❑ Sidewalks: 5 ft minimum, 6 ft standard
- ❑ Lighting: Pedestrian scale streetlights spaced 40-50 ft; Vehicular scale light posts spaced 125 ft
- ❑ Crossing improvements: High-quality intersections and pedestrian crossings at an approximate 900-1,100 ft spacing, with mid-block crossings at areas with higher pedestrian activity
- ❑ Signal timing: Improved actuated signals and install progression-controlled signal system
- ❑ Pocket medians to calm traffic and control left turns

It is important to note that the Preferred Access Plan shows pocket median locations. The use of these medians is confined to these specific locations with the purpose of controlling turning movements (traffic calming), and improving the predictability of traffic movements, while simultaneously improving crossing conditions by allowing for median refuge crossings. Gateway locations are noted as the viaduct between 7th and 8th Avenues and the Washington Boulevard intersection. High-quality intersections include 3rd Avenue, 8th Avenue, 10th Avenue and Doulton Avenue, Charleston Avenue, the CHH entrance, and Washington Boulevard. Key pedestrian crossing areas include 5th Avenue, midblock in front of the A. D. Lewis Community Center, Columbia Avenue / 13th Avenue, Boulevard Avenue, Kinetic Drive, and the high school entrance.

Hal Greer Boulevard Concept Designs

The design considerations for each section of the roadway are described first followed by the concept designs, engineered using AutoCAD™. This section shows graphically (see cross section for each Context Zone) how the typical cross sections developed for this project are used to create a context-sensitive and seamless set of design solutions that address the specific needs of each of the three corridor segments. Photo-simulations of what the proposed result might look like, as well as imagery of built examples are provided, where applicable.

MARSHALL WAY RECOMMENDATIONS

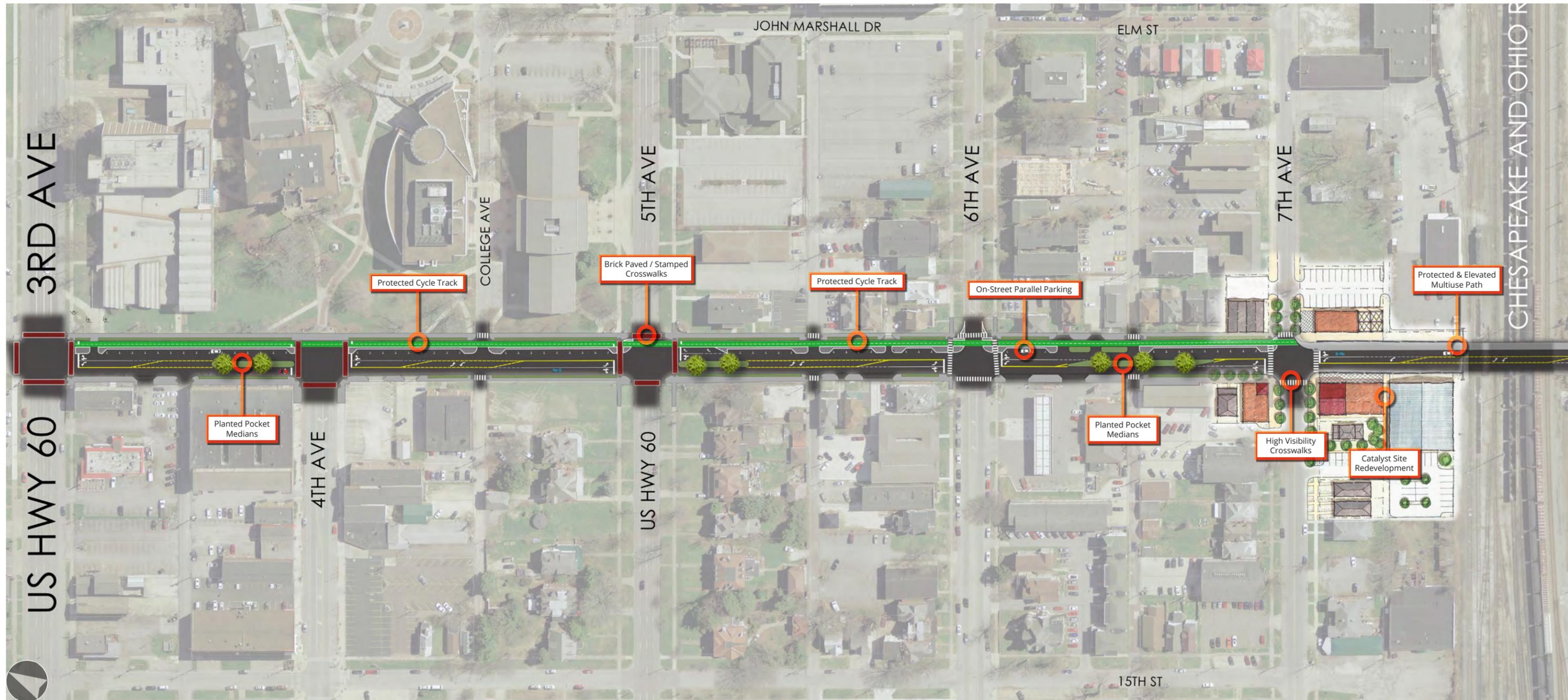
- ❑ Conduct a road diet from 8th Avenue to 3rd Avenue from 4 lanes to 3 lanes
 - ❑ Install planted pocket medians to control turning movements
 - ❑ Install planted or painted bulb outs along the north side of the roadway, including stormwater best management practices
 - ❑ Install a 2-way cycle track with 3 ft buffer curbing on the north side of the roadway
 - ❑ Install parallel parking along the north side of the roadway to protect the cycle track, separated by curbing to allow proper drainage
- ❑ Install high visibility crosswalks and pedestrian countdown signals at the intersections
- ❑ Install brick paved or stamped concrete crosswalks at the 3rd, 4th, and 5th Avenue intersections
- ❑ Add streetscape improvements including pedestrian scale lighting, banners for Downtown Huntington and Marshall University, street trees and plantings where appropriate



FIGURE 7.2: PROPOSED CROSS SECTION - MARSHALL WAY



FIGURE 7.3: MARSHALL WAY CONCEPT DESIGN



Fourth Avenue Intersection Proposed Redesign

Proposed Improvements

- Paved/Stamped Crosswalks
- Lane Reduction from 4 lanes to 3 lanes
- Protected Cycletrack
- Parallel Parking
- Pedestrian Lighting
- Street Trees
- Raingarden or Planter Boxes



Existing conditions at the 4th Avenue intersection on Hal Greer Boulevard.



FIGURE 7.4: FOURTH AVENUE INTERSECTION PROPOSED REDESIGN

Hal Greer Viaduct Proposed Redesign, Viewing South from Seventh

Proposed Improvements

- Lane Reduction from 4 lanes to 3 lanes
- Protected and Raised 10 ft Multiuse Path
- Viaduct Lighting
- Community Murals (cultural/historical)



Existing conditions at the viaduct from 7th Avenue.

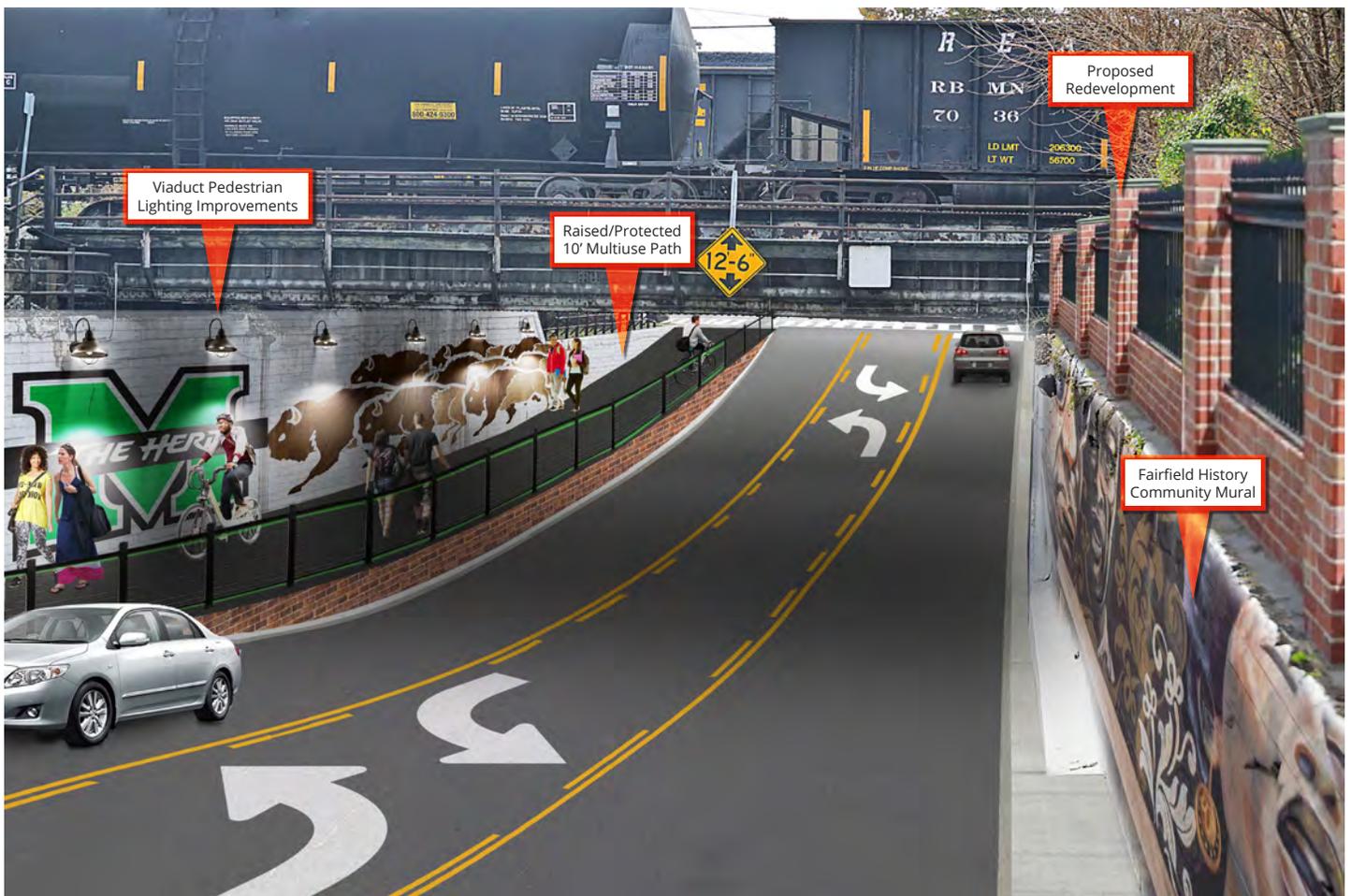


FIGURE 7.5: VIADUCT PROPOSED REDESIGN, SOUTH FROM SEVENTH

FAIRFIELD INNOVATION DISTRICT RECOMMENDATIONS

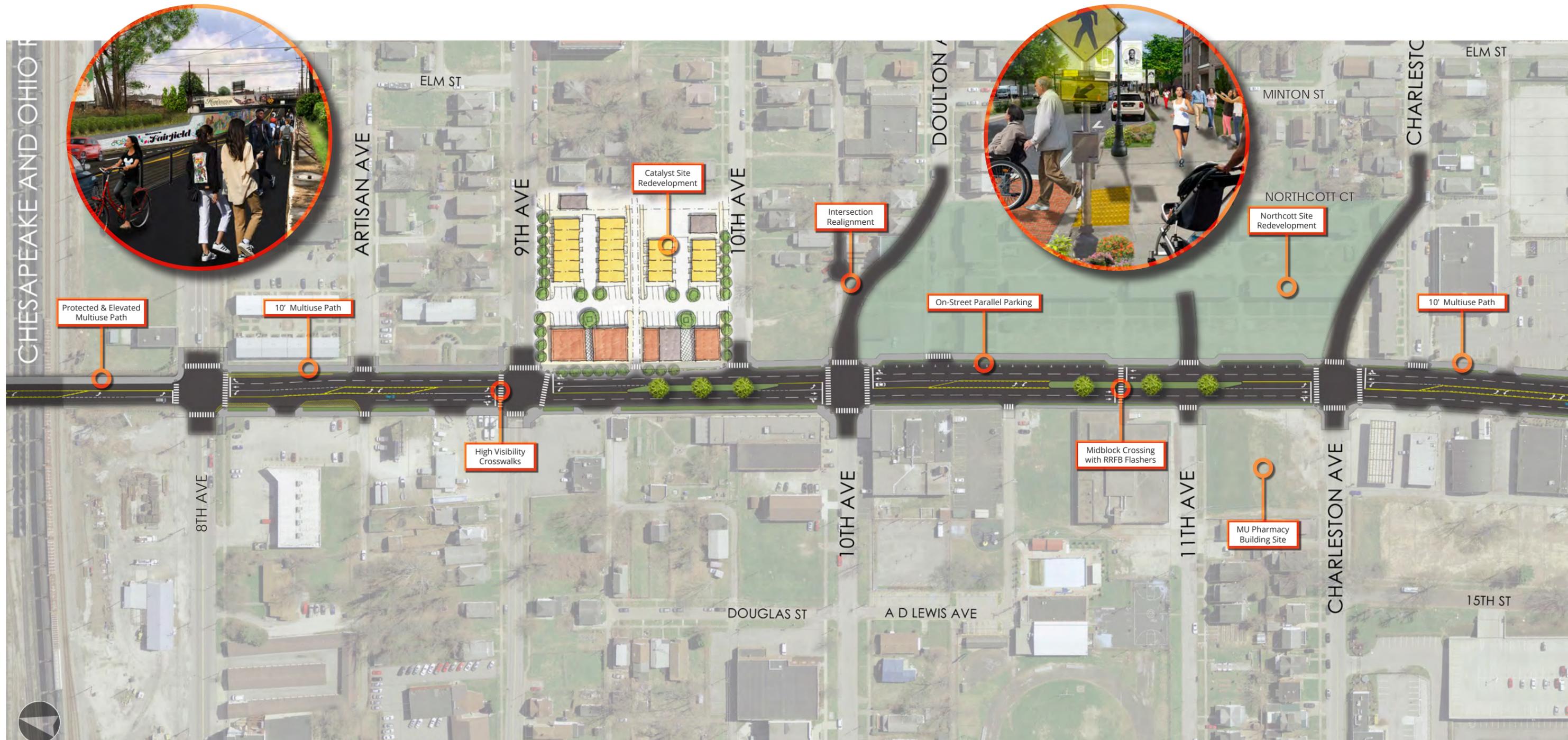
- ❑ Install 10 ft sidepath in back of curb on the northbound side of Hal Greer Boulevard
- ❑ Install streetscape improvements including pedestrian scale lighting, Fairfield community banners, and street trees, where possible
- ❑ Install planted pocket medians at set locations along this segment to make turning movements more predictable and address the side street offsets
- ❑ Install high visibility crosswalks at intersections
- ❑ Consolidated driveway access for commercial businesses with multiple vehicular entry points
- ❑ Install median protected mid-block crossings with high visibility ladder style crosswalks and Rectangular Rapid Flashing Beacons (RRFB)
- ❑ Cabell-Huntington Hospital Entrance: realign the entrance, install brick paved or stamped concrete crosswalks and install pedestrian countdown signals
- ❑ Install Danish Crossing at the Charleston/13th Avenue intersection per previous study recommendation
- ❑ Realign the Charleston Avenue intersection, reverting Charleston Avenue to right-in/right-out access, and consolidate traffic signals, install crosswalks and pedestrian countdown signals
- ❑ Install recessed parallel parking along the frontage of the Northcott site as part of the redevelopment
- ❑ Install median protected mid-block crossing in front of the A.D. Lewis community center
- ❑ Realign the 10th Avenue and Doulton Avenue intersections, consolidate the traffic signals, and install high visibility ladder style crosswalks and pedestrian countdown signals
- ❑ Add raingardens at key areas to improve stormwater retention along corridor, as recommended in a previous plan
- ❑ Reduce roadway from 4-lanes at the 9th Avenue intersection to 3-lanes at the 8th Avenue intersection
- ❑ Install a protected, grade separated elevated 10 ft multiuse path from 8th Avenue to 7th Avenue through the viaduct and remove old sidewalk

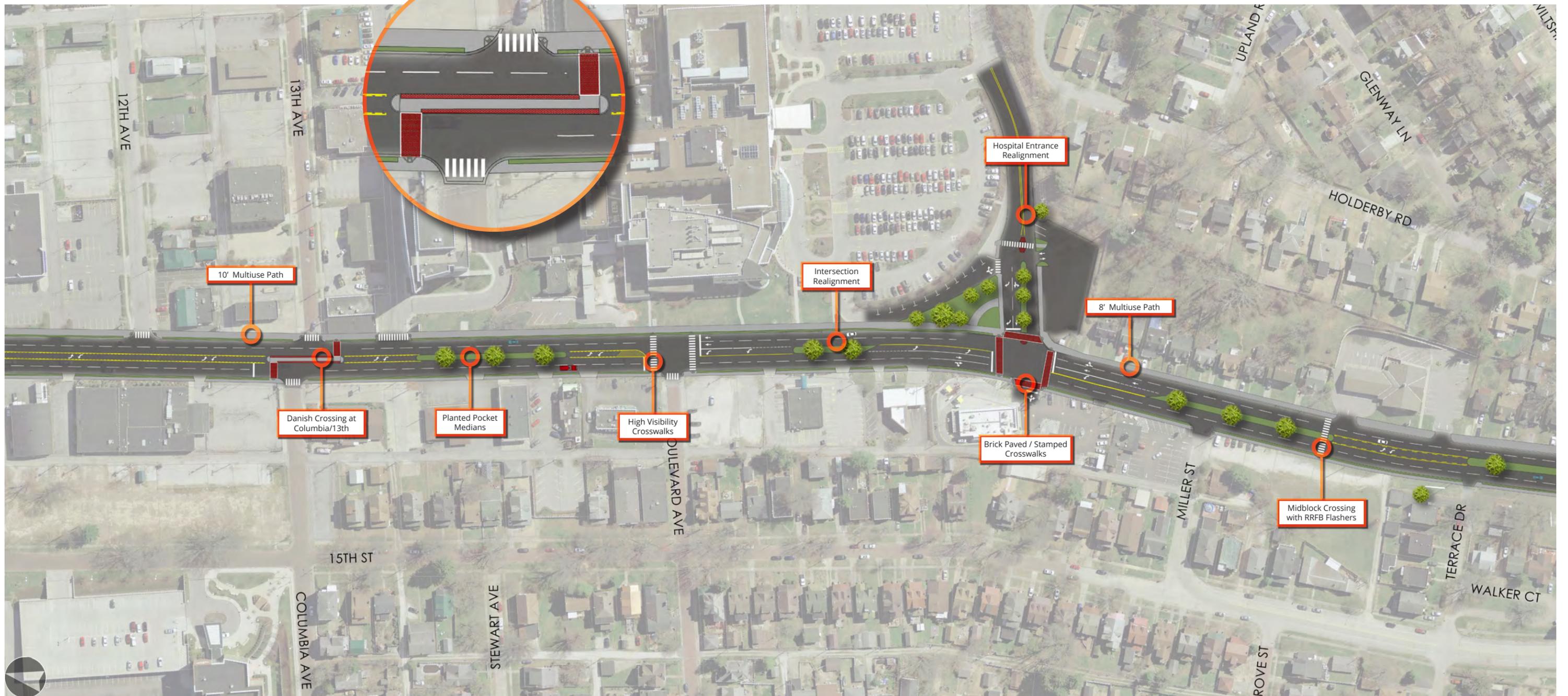


FIGURE 7.6: PROPOSED CROSS SECTION – FAIRFIELD DISTRICT



FIGURE 7.7: FAIRFIELD DISTRICT CONCEPT DESIGN







Hal Greer Viaduct Proposed Redesign, Viewing North from Eighth

Proposed Improvements

- ❑ Lane Reduction from four-lane to three-lane
- ❑ Protected and Raised 10 ft Multiuse Path
- ❑ Viaduct Lighting
- ❑ Community Murals
- ❑ Streetscape Improvements
- ❑ Narrow Entrance



Existing conditions at the viaduct from 8th Avenue.



FIGURE 7.8: VIADUCT PROPOSED REDESIGN, NORTH FROM EIGHTH

Proposed Fairfield Streetscape Improvements and Midblock Crossing at A. D. Lewis

Proposed Improvements

- ❑ Recessed On-Street Parallel Parking (Developer Implemented)
- ❑ Planted Median
- ❑ Protected Midblock Crossing
- ❑ Rectangular Rapid Flashing Beacon (RRFB)
- ❑ Paved/Stamped Crosswalks
- ❑ Pedestrian Lighting
- ❑ 10 ft Sidepath
- ❑ Streetscape Improvements



Existing conditions at the Northcott property.



FIGURE 7.9: FAIRFIELD STREETScape IMPROVEMENTS

Note: The buildings shown on the Northcott site are placeholders and not representative of any past, current, or proposed plans.

Cabell-Huntington Hospital Entrance Proposed Realignment

Proposed Improvements

- ❑ Realignment of Medical Center Drive
- ❑ Narrow Entrance
- ❑ Pocket Park with Seating
- ❑ Planted Median
- ❑ Mast Arm Signal Light Poles
- ❑ Pedestrian Countdown Signals
- ❑ Pedestrian Refuge Crossings
- ❑ Paved/Stamped Crosswalks
- ❑ Improved Signal Timing



Existing conditions at the hospital entrance on Hal Greer Boulevard.

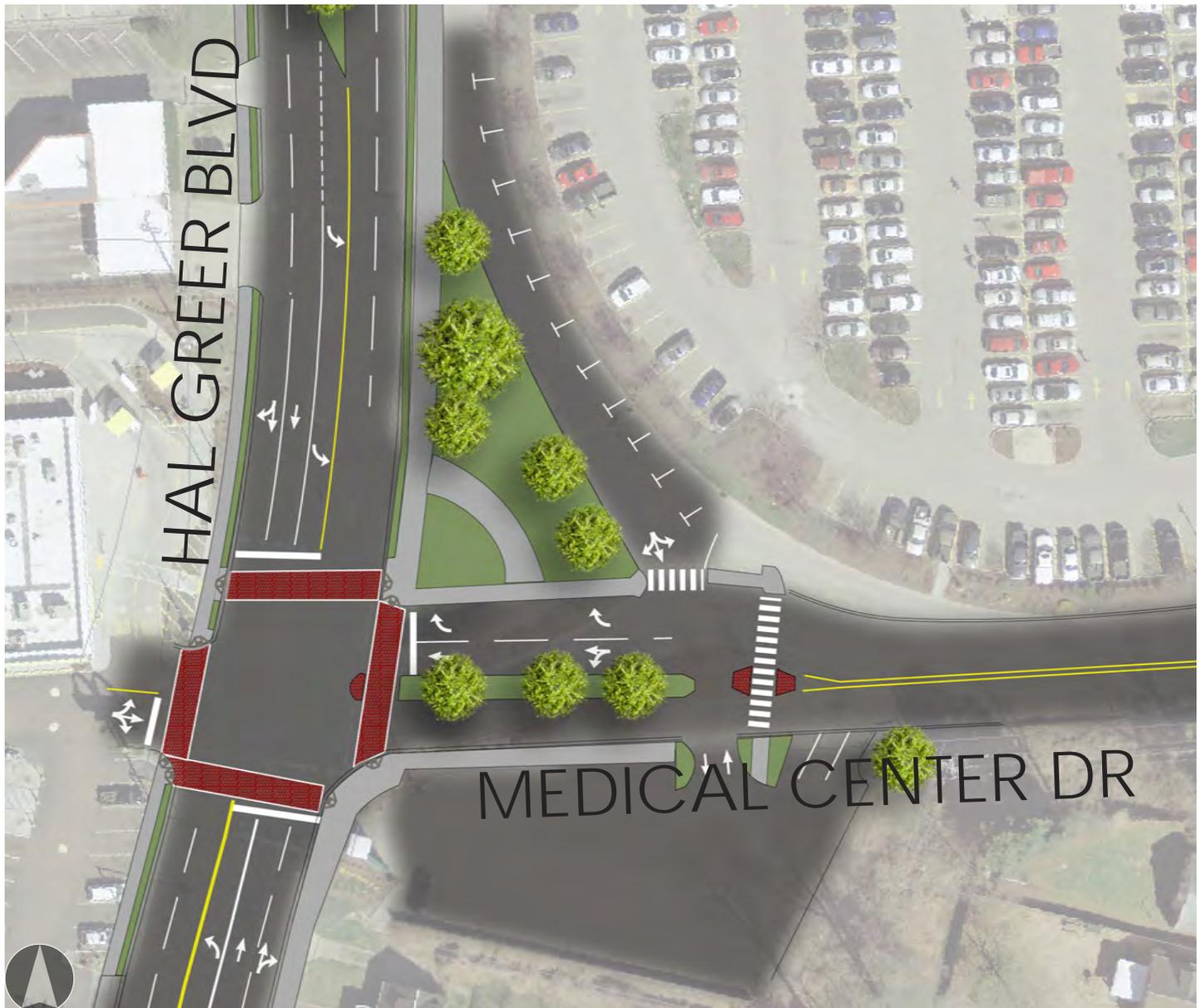


FIGURE 7.10: CABELL-HUNTINGTON HOSPITAL ENTRANCE REALIGNMENT

Proposed Streetscape Improvements and Midblock Crossing at the 1500 Block of Hal Greer Boulevard

Proposed Improvements

- ❑ Planted Median
- ❑ Midblock Crossing
- ❑ Rectangular Rapid Flashing Beacon
- ❑ Paved/Stamped Crosswalks
- ❑ Pedestrian Lighting
- ❑ 8 ft Sidepath
- ❑ Streetscape Improvements



Existing conditions.



FIGURE 7.11: PROPOSED MIDBLOCK CROSSING AT THE 1500 BLOCK

KINETIC BYWAY RECOMMENDATIONS

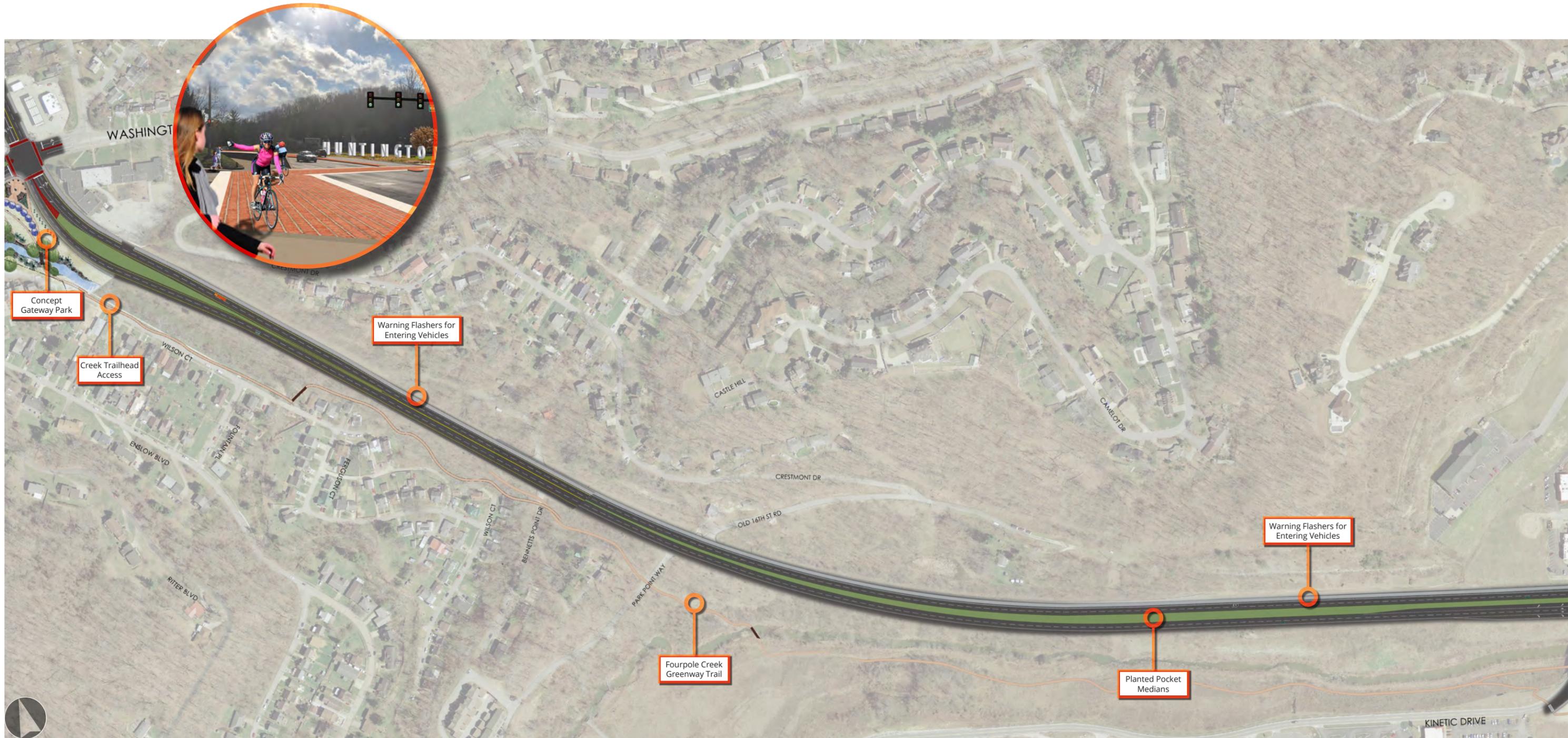
- ❑ Install warning flashers for entering vehicles from Meadows Elementary School
- ❑ Install protected 10 ft sidepath along the northbound side of the roadway from Meadows Elementary School to the Kinetic Drive Intersection
- ❑ Install jersey barrier to protect sidepath from Meadows Elementary School to the Kinetic Drive Intersection
- ❑ Plant medians with appropriate vertical plantings to encourage traffic calming on the roadway and improved streetscape
- ❑ Install high visibility crosswalks and pedestrian countdowns at the Kinetic Drive intersection
- ❑ Install either brick paved or stamped concrete crosswalks, pedestrian countdowns, and mast-arm signals at the Washington Boulevard / Enslow Boulevard intersection
- ❑ Construct a 10-12 ft multiuse trail along the Fourpole Creek with trailheads at Enslow Boulevard, Kinetic Drive and Highlander Way
- ❑ Gateway Entrance: Construct Active Gateway Park at Washington and Enslow Intersection
- ❑ Add vehicular street lamps along the roadway either in median or along the sidepath



FIGURE 7.12: PROPOSED CROSS SECTION – KINETIC BYWAY



FIGURE 7.13: KINETIC BYWAY CONCEPT DESIGN





Washington Boulevard Intersection Proposed Improvements (Plan)

Proposed Improvements

- ▣ Planted or Paved/Stamped Medians
- ▣ Pedestrian Refuge Crossings
- ▣ Paved/Stamped Crosswalks
- ▣ Improved Signal Timing
- ▣ Driveway Consolidation
- ▣ Streetscape and Gateway Improvements



Existing conditions at the Washington Blvd/Hal Greer Boulevard intersection.



FIGURE 7.14: WASHINGTON BLVD INTERSECTION PROPOSED IMPROVEMENTS (PLAN)

Washington Boulevard Intersection Proposed Improvements (Perspective Rendering)

Proposed Improvements

- ▣ Planted or Paved/Stamped Medians
- ▣ Pedestrian Refuge Crossings
- ▣ Paved/Stamped Crosswalks
- ▣ Improved Signal Timing
- ▣ Driveway Consolidation
- ▣ Streetscape and Gateway Improvements



Existing conditions at the Washington Blvd/Hal Greer Boulevard intersection.



FIGURE 7.15: WASHINGTON BLVD INTERSECTION PROPOSED IMPROVEMENTS

Proposed Protected Multiuse Path along Hal Greer Boulevard

Proposed Improvements

- Protected 10 ft Multiuse Path
- Vehicular Level Lighting
- Street Trees



Existing conditions.



FIGURE 7.16: PROPOSED PROTECTED MULTIUSE PATH ALONG HAL GREER BOULEVARD

Streetscape Concept Designs

CONCEPTUAL PLANTING AND GREEN STORMWATER INFRASTRUCTURE

City streets are not just thoroughfares for motor vehicles; they serve as public spaces where people walk, shop, meet, and participate in activities that make urban living enjoyable. As outlined in **Chapter 3: Public Engagement Summary**, the Huntington community has expressed a strong preference to create an environment that incorporates sustainable design elements within the streetscape to enhance the livability of their city streets. **This concept design presents options and examples for greening the corridor and must be defined in the final design to be implemented. Additionally, many of these practices can be implemented outside of the right-of-way by property owners.**

Green stormwater infrastructure is a key component and the community would like to include bio-retention planters, bio-swales, rain gardens, and permeable pavement where possible. Where soil conditions permit, along with the consideration of existing vegetation, the community would like green stormwater infrastructure to be constructed to filter pollutants, control storm water runoff, provide natural habitat, recharge ground water, and protect other bodies of water.

Benefits of a sustainable streetscape:

- Control stormwater runoff
- Reduce drainage problems
- Recharge groundwater
- Filter pollutants
- Add aesthetic value
- Provide natural habitat

Following these short summaries of green street infrastructure are the conceptual streetscape plans accompanied with precedent imagery, a list of plantings and street trees appropriate for Huntington, and street furnishing examples.

Permeable Pavements

Impervious surfaces, such as asphalt and concrete, do not allow rainwater to soak into the ground, making additional utility infrastructure necessary to deal with runoff. Permeable pavements, such as pervious concrete, pervious asphalt, or permeable paver systems, allow water to infiltrate the ground and reduce stormwater runoff and therefore reduce drainage problems. Permeable pavements are shown for the cycle track and parking lanes. For the cycle track, porous asphalt or concrete is recommended rather than pavers, which can settle over time and become much less comfortable for cycling.

Rain Gardens

Rain gardens are an attractive solution to recycle rainwater such that it is both treated and used to grow plants that contribute to the wellbeing of the community.

Bioretention + Bioswales

Bioretention systems are used to remove a wide range of sediments and contaminants, such as suspended solids, nutrients, metals, hydrocarbons, and bacteria from stormwater runoff. When designed as a multi-functional system, they can also be used to reduce peak runoff rates and increase stormwater infiltration. Bioretention systems were proposed along Hal Greer to prevent flooding at the viaduct. Inclusion of these practices along the corridor will be dependent on site-specific engineering studies of soil conditions, drainage patterns, and several other factors, including further study into the placement and agreements with property owners.

Street Trees

Street trees provide so many benefits that they should always be considered as an urban area default street making feature. Medium-sized canopy street trees planted at 40-50 ft on center. In later design phases, individual trees should be carefully positioned to allow adequate sight lines at intersections and driveways, to not block streetlights or business signs, and to not impact utility lines above or below ground.

CONCEPTUAL STREETSCAPE PLAN

CONCEPTUAL PLANTING LEGEND

-  Permeable Pavement
-  Bio-Swales or Rain Gardens
-  Planting Buffer or Bio-Retention Planters
-   Proposed Street Trees (Large + Small/Medium)
-  Existing Tree



Conceptual Planting - 3rd Ave to 5th Ave.



Conceptual Planting - 5th Ave to 7th Ave.



Conceptual Planting - 8th Ave to 10th Ave.



Conceptual Planting - 10th Ave to 11th Ave.



Permeable Pavements for Parking Lanes and Bikeways. (Source: NACTO)



Permeable Pavements for Bikeways. (Source: KPG Inc.)



Rain Garden. (Source: Stantec)



Median Planting/ Rain Garden. (Source: Stantec)



Conceptual Planting - 11th Ave to 12th Ave.



Planting Buffer/ Bio-Retention Planters. (Source: Dan Wendt, MWRD)



Conceptual Planting - 12th Ave to Boulevard Ave.



Planting Buffer/ Bio-Retention Planters. (Source: Stantec)



Conceptual Planting - Boulevard Ave to Miller St.



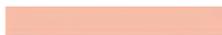
Planting Buffer/ Bio-Retention Planters. (Source: Joel Rogers)



Conceptual Planting - Miller St to Washington Blvd.

CONCEPTUAL STREETSCAPE PLAN (continued)

CONCEPTUAL PLANTING LEGEND

-  Permeable Pavement
-  Bio-Swales or Rain Gardens
-  Planting Buffer/ Potential Bio-Retention Planters
-   Proposed Street Trees (Large + Small/Medium)
-  Existing Tree



Conceptual Planting - Washington Blvd to Kinetic Dr.



Conceptual Planting - Kinetic Dr.



Conceptual Planting - Hal Greer Blvd at Interstate 64.

STREET TREES: SPECIES



LARGE STREET TREES

- 1. Honeylocust 'Shademaster'
- 2. Kentucky Coffeetree
- 3. Linden 'Greenspire'
- 4. London Planetree 'Bloodgood'
- 5. Oak 'High Tower'
- 6. Oak 'Shumard'

SMALL - MEDIUM STREET TREES

- 7. Cherry
- 8. Japanese Tree Lilac
- 9. Kousa Dogwood 'Satomi'
- 10. American Hornbeam



RAIN GARDEN PLANT SPECIES

SHRUBS

1. Buttonbush (*Cephalanthus occidentalis*)
2. Gray Dogwood (*Cornus racemosa*)
3. Hydrangea (*Hydrangea arborescens*)
4. Little Henry (*Itea virginica*)
5. Red-Osier Dogwood (*Cornus sericea*)
6. Sixteen Candles (*Clethera alnifolia*)
7. St. Johnswort (*Hypericum densiflorum*)
8. Silky Dogwood (*Cornus amomum*)
9. Spicebush (*Lindera benzoin*)
10. Sweet Mock Orange (*Philadelphus coronaries*)
11. Winter Red Inkberry (*Ilex verticillata*)
12. Witch Hazel (*Hamamelis virginiana*)

FLOWERS

13. Bee Balm (*Monarda fistulosa*)
14. Blue Flag (*Iris virginica shrevei*)
15. Blue Wild Indigo (*Baptisia australis*)
16. Butterfly weed (*Asclepias tuberosa*)
17. Dense Blazing Star (*Liatris spicata*)
18. Joe-Pye Weed (*Eupatorium dibium*)
19. New England Aster (*Aster novae-angliae*)
20. Purple Coneflower (*Echinacea purpurea*)
21. Shining Aster (*Aster firmus*)
22. Foxglove (*Penstemon digitalis*)
23. Showy Black-Eyed Susan (*Rudbeckia fulgida*)

GRASSES

24. Bushy Bluestem (*Andropogon glomeratus*)
25. Fountain Grass (*Pennisetum setaceum*)
26. Inland Sea Oats (*Chasmanthim latifolium*)
27. Little Bluestem (*Schizachyrium scoparium*)
28. Switchgrass (*Panicum virgatum*)

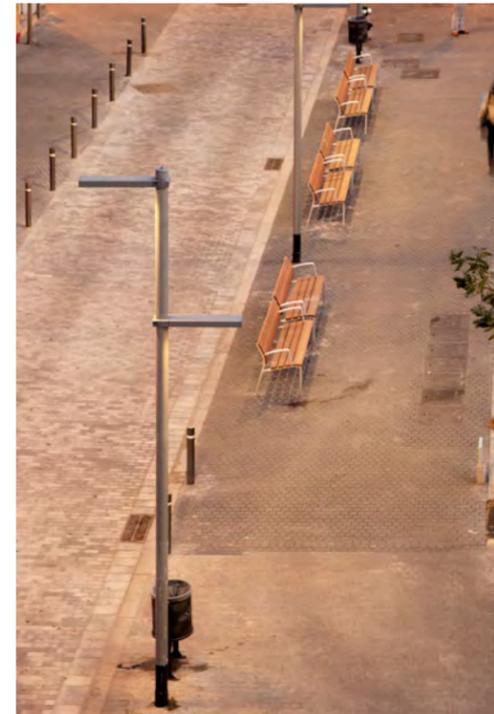


SITE FURNISHINGS

Site furnishings can make a street feel much more comfortable for the users by creating a pedestrian scaled environment, and invoking a sense of place and overall identity for the community. When designed correctly, furnishings can create dynamic spaces that enhance social engagement while simultaneously establishing order. Aspects such as the shape, texture, color and material can have a significant impact on how the streetscape reflect and complement surrounding building designs. The character images in this chapter depict some of the types of design treatments that could be incorporate on Hal Greer Boulevard.



Site Furnishings. (Source: FORMS + SURFACES)



Site Furnishings. (Source: Landscapeforms)



Site Furnishings. (Source: Forms + Surfaces)



Site Furnishings. (Source: Forms + Surfaces)



Site Furnishings. (Source: Landscapeforms)



Site Furnishings. (Source: FORMS + SURFACES)



Site Furnishings. (Source: Victor Stanley)



Site Furnishings. (Source: Maglin)



Site Furnishings. (Source: Forms + Surfaces)



Site Furnishings. (Source: Landscapeforms)

Catalyst Sites

The primary focus of the Corridor Plan is to analyze and recommend solutions for what happens within the right-of-way along Hal Greer Boulevard. However, Hal Greer Boulevard does not exist in a vacuum – it is a vital connection within the context of the Fairfield neighborhood and the City of Huntington. The buildings and uses along Hal Greer will affect and are affected by what occurs in the roadway. To further the principles and goals laid out in the first chapter of this study, three sites were selected to provide realistic examples of the urban design characteristics of redevelopment patterns that can occur along Hal Greer.

Using the market analysis and feedback from multiple conversations with community and committee members, the design team produced three conceptual redevelopment plans that create the highest and best use of the property while respecting the context of the surrounding area. These sites are shown here as examples of better development possibilities for this area, and if they are realized, they can act as catalysts for positive change, increased investment, and growth for this community.



CATALYST SITE 1: FAIRFIELD MIXED USE REDEVELOPMENT

Existing Conditions & Context

The 900 block of Hal Greer Boulevard is noticeable when driving northbound on the boulevard; it is the block with the large set of billboards roughly ten feet off the ground. In front of the billboards is a small unpaved parking lot, and just behind them are two retail buildings that front Hal Greer with no signage or visible occupants. Next door is a used tire shop, and behind are several vacant single-family lots and a rear access alley, with no substantial buffer between the commercial and residential areas. Within the commercial strip there are minimal neighborhood amenities or services

for day-time employees, such as grocery stores, restaurants, or personal services. There are also significant developments along Hal Greer between the viaduct and the hospital, including the hospital, AD Lewis Center, Barnett Center, and the new HUD site, which lack consistent pedestrian and bicycle facilities and streetscape amenities.

Historically, Huntington, like many communities around the nation, was starkly divided by race. A number of cities have redlining maps that point to the codification of the practice of banks declining loan applications for residents from neighborhoods outlined or shaded in red, which were primarily black or minority neighborhoods,



The 900 block of Hal Greer Boulevard.

and approving loans from areas in green or blue, which were white neighborhoods. Additionally, many neighborhoods were founded and planned as white only, which was expressly stated in their by-laws. Many times, the black or poor neighborhoods were physically separated from the white or affluent neighborhoods, often with a physical or geographical feature.

In Huntington, the railroad physically divided the city, with the urban core and university on one side facing the river and everyone else on the other side. "The other side of the tracks" is a common phrase, in which the railroad tracks are typically seen as a demarcation of the economic and social standing of each side. With the Marshall University on the north side of the tracks, Fairfield to the south, and a low, dark tunnel connecting the two, it is clear which side historically faced the negative perception.



Existing commercial business at this site is automobile orientated.



This alley runs from Hal Greer Boulevard to 20th Street.

Proposed Redevelopment

The Fairfield Mixed Use Redevelopment model aims to ease the transition from walkable retail corridor to residential neighborhood, and by building higher-quality development, it can lessen the historic stigma associated with “the other side of tracks” mentality. In this concept design, urban context is created along Hal Greer by encouraging development that fronts the street along the block and supporting neighborhood service retail to activate the storefronts. With this configuration, opportunities to create open plazas/spaces or hardscape alleys between buildings, allowing better access to the shared parking and the flexibility for dining or gathering space and public art.

In shifting parking behind the buildings, the shared access lots can also serve three story townhomes with rear access garage parking and additional parallel parking along 9th and 10th Avenues. The townhomes function as a buffer and transitional zone between the commercial and single-family residential fabric of this area. While still providing parking for residents and the customers, the scale of the development still allows for increased walkability and could provide access to small local shops, services, and employment opportunities for this community.



Downtown Huntington has great walkability.



Existing neighborhood commercial on Hal Greer.



With open doors, this building encourages access.



These townhomes allow for rear parking access.



This cafe space activates an alley.



Urban townhomes can easily adapt to any context.



FIGURE 7.17: FAIRFIELD MIXED USE REDEVELOPMENT CATALYST SITE

Building 1:

- ❑ 2 floors
- ❑ 2,000 sf Commercial
- ❑ 2,000 sf Office
- ❑ 10 parking spaces
- ❑ Shared hardscaped alley/plaza in between building 1 and existing building - wide enough for possible outdoor dining (depending on uses of buildings)

Building 2:

- ❑ 1 floor
- ❑ 1,250 sf Commercial
- ❑ 1,750 sf Existing Commercial (adjacent)
- ❑ 6 parking spaces

Buildings 3+4:

- ❑ 2 floors
- ❑ 5,500 sf Commercial or Office
- ❑ 5,500 sf of Residential = 4 units
- ❑ 16 parking spaces
- ❑ Shared hardscaped alley/plaza in between buildings 3 and 4 - wide enough for limited outdoor dining (depending on uses of buildings)

Townhomes 5+6:

- ❑ 3 floors each
- ❑ 8 units
- ❑ Parking in garage ground level, alley accessed

Building 7+8:

- ❑ 3 floors each
- ❑ 12 units
- ❑ Parking in garage underneath, alley accessed

CATALYST SITE 2: ACTIVATED VIADUCT GATEWAY REDEVELOPMENT

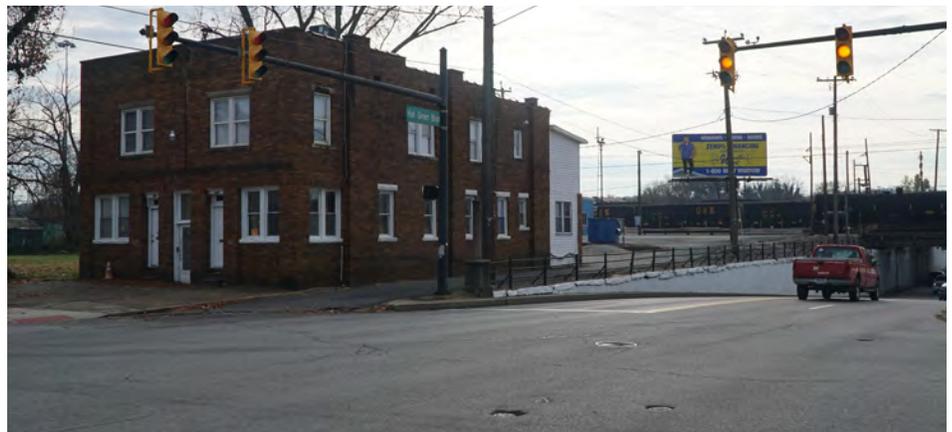
Existing Conditions & Context

The intersections of Hal Greer at 7th and 8th Avenues mark either side of the viaduct. These intersections are what the user sees first and last when moving between Fairfield Innovation District and Marshall Way. Today, 7th Avenue functions as a transitional area from the viaduct to the higher quality urban development patterns along the university's edge. From 7th to 5th Avenue, the urban pattern is inconsistent, broken up by empty lots, auto-centric buildings like the Speedway gas station and the ice vending kiosk. Adjacent to the track are parcels with no direct access to a street and enclosed by tall security fences. Much of the residential properties here function as off-campus student housing, and a number of these appear worn and lack exterior upkeep. However, most feature large street facing front porches or balconies.

Hal Greer passes under the viaduct between 7th and 8th Avenue, dipping 12 feet below grade, with the grade change beginning at the intersection. During weather events where more than two inches of rain falls over a 24-hour period, the area at the bottom of the viaduct will typically flood. This phenomenon may appear to be caused by surface water runoff accumulating naturally at the lowest point but is actually caused by the increased demand from the entire watershed south of the viaduct that converges to one main pipe that passes below Hal Greer at the viaduct. The combined stormwater and sewage



The 700 block of Hal Greer Boulevard, just north of the viaduct.



This existing brick buildings backs to the rail line and currently house several student apartments.



Across the street, an ice vending kiosk stands in a paved lot used for parking near student rental properties.

line reaches its capacity, creating back up pressure that flows out of the inlets at the bottom of the underpass. This results in a severe ecological, sanitary, and safety issue that blocks all form of travel from either side of the underpass.

Proposed Redevelopment

Redeveloping this site can help to further further transform the area around the viaduct into a gateway to the Fairfield neighborhood and Marshall University. This is the confluence of the Fairfield neighborhood and the Marshall University neighborhood and an important opportunity to explore the redevelopment potential of the areas adjacent to the viaduct to mitigate the sense of otherness that historically divided these two communities.

The vacant parcels near this intersection pose the opportunity to use the built form to frame the gateway by constructing new buildings that front the street and visually balance the existing apartment buildings. The awkward parcel with no street access becomes a back-of-house or warehouse/light manufacturing operation when combined with a front-of-house or storefront operation in the building that fronts Hal Greer. This could provide the ideal space for local artisans, sculptors, ceramics studios, furniture makers, or even a brewery operation, with the front-of-house building featuring a restaurant or taproom with a rooftop dining area. At two stories high, this could provide a new viewshed for Huntington.



Late hours and large windows promote safety.



Commercial frontage with industrial elements.



Breweries require some manufacturing space.



Artist studios can be one use for the warehouse.



Active dining patios at street level or on roof tops can provide iconic experiences. (Raleigh Beer Garden)

The two buildings utilize the shared parking lot with access to 7th Avenue, as well as on street parking on the avenue. In addition to this configuration, setting the building back from the parcel edge provides an opportunity for softscape or permeable hardscape patio areas in what would otherwise be dead space along the edges. This provides space for outdoor activities that activate the first floor of the building edge. Across the street, the existing brick building can be rehabbed to be activated in a similar function with commercial space on the ground floor with an outdoor patio space, housing perhaps a beer garden or a late-night coffee shop and study lounge for students, and residential units on the second floor.

With the redevelopment of each corner fully realized, this intersection becomes activated. When combined with the proposed roadway and underpass improvements, this intersection is completely transformed. The buildings on the other side of the viaduct would face Hal Greer but be fronted with public space like outdoor dining and gathering spaces. Pedestrians and cyclists would be able to safely travel through the well-lit and public art lined viaduct using the separated and elevated multiuse path and would be greeted by patrons still mingling on patios.



(Northeast View)



In this model of the site design, flexible public spaces can be seen on either side of the viaduct, allowing for an activated gateway. (Northwest View)



FIGURE 7.18: ACTIVATED VIADUCT GATEWAY REDEVELOPMENT CATALYST SITE

Building 1+2:

- ❑ 2 floors + potential rooftop bar/ viewing deck on building 2
- ❑ Brewery or Art Studio or Light Industrial Materials Manufacturer with storefront / gallery / materials display room in building 2 and work space in warehouse building 1
- ❑ 20 parking spaces
- ❑ Possible outdoor dining depending on use of buildings

Building 3:

- ❑ 3 floors
- ❑ 2,400 sf Commercial
- ❑ 4,800 sf Residential = 4 units
- ❑ 9 parking spaces - shared with new development lots

Buildings 4:

- ❑ Rehab existing building
- ❑ 2 floors
- ❑ 2,100 sf Commercial
- ❑ 2,100 sf of Residential = 2 units
- ❑ 7 parking spaces
- ❑ Outdoor dining and Beer Garden

CATALYST PARK: HUNTINGTON GATEWAY PARK

Existing Conditions & Context

Hal Greer Boulevard has several signs to welcome visitors into Huntington, but none truly stand out. Visitors traveling from Ohio to the north have one of three bridges, including the East Huntington Bridge by the Guyandotte River, which all provide a dynamic sense of arrival. The arrival from Exit 11 on Interstate 64 does little in comparison. Directly behind the last sign for Huntington (in the center median near Meadows Elementary School) is a large grassy lot. From first glance, the lot's only feature is the guardrail that cuts through it and the sidewalk along Washington Boulevard. The grassy lot is bounded by Fourpole Creek and two outlets that connect smaller creeks that feed into Fourpole. The creek backs against the first few homes in the Enslow Park neighborhood, and is lined with concrete banks, with most of the creek in its natural condition outside of this immediate area.

Proposed Development

Leaning on the City's desire for more public art, connected trails, and flower displays with seasonal interest, the Huntington Gateway Park provides a multitude of experiences within a small 2.4 acre site. The park design welcomes exploration and provides places for rest and reflection as well as activity and exercise. The Gateway Park capitalizes on the gradual ascension into the City and sweeping curve of the roadway; travelers coming in from the interstate are first greeted with a sculptural sign that spells out 'Huntington' in large capital letters. At the intersection of Washington and Hal Greer, a welcoming plaza is defined by landscape planter pergolas for shaded seating. In the center of this plaza is space for a landmark sculpture, something that can define this space as a meeting place for locals and visitors alike.

An ornamental tree arc separates the plaza from the sculpture garden. Several paths cut through the landscape around thoughtfully placed sculptural installations with historic or cultural significance.



The intersection of Hal Greer and Washington Boulevards.



An iconic sign welcomes visitors to this community.



Greenway trails can be combined with fitness trails.



Restoring streams and creating cultural landmarks both add to the experience.



1. Stream Restoration
2. Fitness Station
3. Benches along Path
4. Educational Signage
5. Stream Outlet
6. Ornamental Tree Arc
7. Specimen Tree
8. Arbor for Shaded Seating
9. Landscape Planters
10. Art Piece (rotating)
11. "Welcome Corner" / Plaza
12. Flower Displays
13. Sculpture Garden
14. Huntington Sign
15. Bridge

FIGURE 7.19: HUNTINGTON GATEWAY PARK

At either end of the garden, the paths converge to the trail along the restored Fourpole Creek. Along the creek, visitors can find educational signage that explain the ecological significance of streams, natural wetlands, and local plantings. A bridge crosses the stream to the south of the park, allowing for the trail to meet with the sidewalk in Enslow Park.

Fourpole Creek presents another opportunity: much of the creek near Kinetic Park has wide, flat banks with a gently worn path alongside it, indicating the possibility of formalizing this trail as a greenway connection.

The PATH system currently proposes to formalize a connection from Ritter Park to Spring Hill through Enslow and Washington Boulevard. Additionally, tying into PATH's objective to improve the health and wellness of the Huntington community, the park design has space for two outdoor fitness stations. Fitness Trails can be found across the country: some are small with stations fairly close to each other, others are spread out, and stations can be as simple as balance beams and pull up bars with a sign detailing exercise instructions or feature formal outdoor gym equipment.

FAIRFIELD HERITAGE TRAIL

Through conversations with committee members, the Fairfield Alliance, local leaders, university representatives, and the public, many points of view were shared regarding how Hal Greer Boulevard should adapt to change. The focus of the Corridor Management Plan is the corridor redesign, which accounts for what is in the right-of-way. Due to the desires of the City and KYOVA, through collaboration with WVDOH, this project was geared to examine the area surrounding the corridor holistically, considering all of the previous planning efforts for this region and unifying the goals of each with the community's vision. One element of this plan was born entirely out of conversations with the community and local leaders, and correlates directly with the fifth guiding principle of this plan – Hal Greer Boulevard should be a Boulevard for Everyone.

The Fairfield community has a long history, with many incredible figures having played a part in paving the way for younger generations. Today much of the building stock in Fairfield is in need of significant renovation or replacement, but the bones of the community are still intact. The Heritage Trail concept came from an interest in telling the story of the community. It meanders along and across the corridor with three objectives; to Celebrate the Past, Enhance the Present, and Integrate Fairfield into the future of this corridor.

Celebrate:

The viaduct has long served as a physical barrier between Fairfield and Marshall, and now is the time to overcome the divisive symbol it represents. The vacant parcels on either side of the railroad present a new opportunity to cross the viaduct. A bridge over the rail lines can be constructed as a connection between two buildings. Through private development, or a public-private-partnership, two 2-3 story buildings can feature a pedestrian bridge accessible by stairs and elevators. A viewing deck with information on the history of the area would be included.

Enhance:

The 800 block of Hal Greer Boulevard is home to a stature and memorial park for Carter G. Woodson and 20 three-bedroom units maintained by Huntington Housing Authority. Originally constructed in 1995, these homes are directly across from where the first Douglass school building stood. Currently, the plaza spaces are not programmed and often without shade. By enhancing the exterior of these buildings and their outdoor spaces, this small community can gain a better sense of place and belonging in the existing urban fabric, a better connection to the past, and usable outdoor space to gather, play, and celebrate as a community. By taking the heritage trail through the center of the courtyard, this can bridge the gap between this community and the corridor.

Integrate:

The blocks between 9th Avenue and Charleston Avenue are largely vacant lots with few existing buildings or open businesses, which present the opportunity for new development along the corridor. This includes the largely former site of the Northcott Housing Complex. As new developments are proposed along this quarter-mile stretch, the character and history of Fairfield should be reestablished along Hal Greer and integrated in the streetscape and architecture. Buildings should front the street and allow for wide sidewalks and on-street parking when possible. Artistic and informational elements should reflect the culture and history of Fairfield and be featured prominently. By coordinating these elements, the passage along Hal Greer and around these buildings should tell the history of the community. Elements should be able to stand alone, but also work together as an experience for the user.

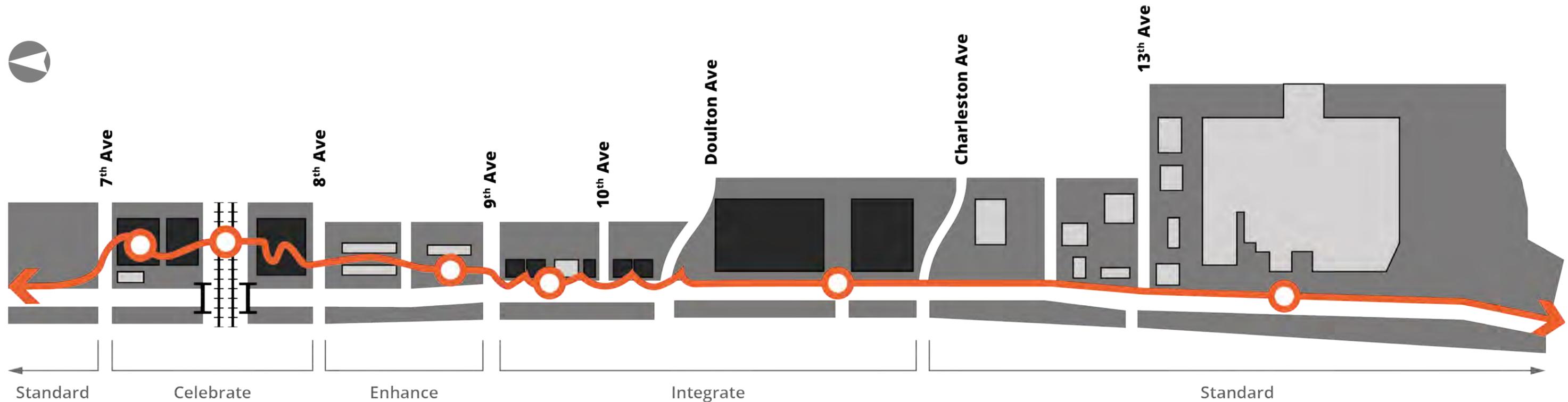


FIGURE 7.20: HERITAGE TRAIL CONCEPT PLAN

To preserve and tell the history of this community, a number of elements can be used in coordination along the Heritage Trail.

Public Art: Murals, sculptures, fountains

Signage: Placards on buildings, informative posters, large format educational signs, banners celebrating Fairfield and spotlighting individuals

Infrastructure: Signage incorporated into pavement, memorial benches, light post banners, path within the pavement

Installations: Audio history stations accessible with QR codes, events, temporary art installations

A number of notable figures from Fairfield have been identified by community members. These individuals can be celebrated in murals, events, and on banners. *The following list was compiled and should not be considered as complete:*

- ❑ **Betty Cleckley** – first black Vice President at Marshall
- ❑ **Memphis Tennessee Garrison** – NAACP member and teacher
- ❑ **Pete Goodson** – most influential director of A. D. Lewis Center
- ❑ **Marion Gray** – community activist
- ❑ **Hal Greer** – first black basketball player at Marshall and NBA All Star
- ❑ **Herbert Henderson, Esq.** – black attorney in Huntington and civil rights attorney
- ❑ **Rev. J. Carl Mitchell** – pastor of 16th Street Baptist Church and community activist;
- ❑ **Joseph Slash, Sr.** – principal of Douglass High School and first black superintendent of Cabell County Schools
- ❑ **Rev. Charles Smith** – pastor of First Baptist Church and community activist

Celebrate

Fairfield Bridge:

- Create a bridge over the railroad with viewing deck
- Must reach a clearance over double stacked rail cars
- Must meet ADA compliance
- Might require enclosure
- Function as a second gateway into Fairfield
- Can feature public art or historical information



Enhance

Carter G. Woodson Park:

- Enhance the existing park
- Enhance the courtyard
- Include gathering space, play area, and community bulletin board
- Enhance exterior of apartments with architectural details seen in Fairfield
- Incorporate signage that celebrates Black History and Fairfield History



Integrate

New Development:

- New construction and redevelopment on Hal Greer should include active frontage
- Frontage should include wide sidewalks
- Architectural details should reflect community context
- Signage, murals, public art, posters, and other artistic and cultural elements should be integrated into the buildings and streetscape





CHAPTER 8: ACTION, POLICY, & BUILDING SUCCESS

155	IMPLEMENTATION
156	POLICY ACTION ITEMS
162	PROJECT LIST
166	FINANCING A COMPLETE VISION
170	MOVING FORWARD, TOGETHER



WELCOME TO
FAIRFIELD
Neighborhood

FIGURES OF
FAIRFIELD
Not Just



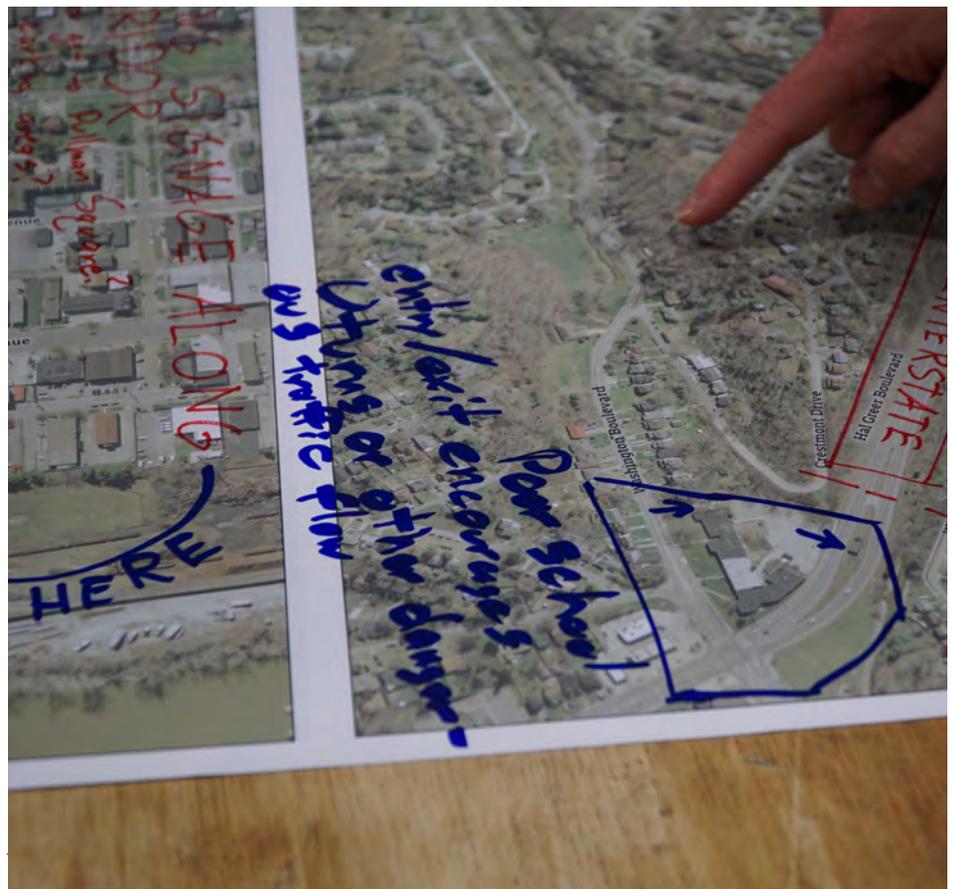
Implementation

In order to achieve the goals laid out in this plan and realize the new vision for Hal Greer Boulevard, it is imperative that a plan for implementing and funding these changes is fully developed. Making this plan a reality requires the coordination, collaboration and combined efforts of many individuals and organizations. This chapter provides a series of defined steps, or an action plan, to move this process forward through both policy changes and physical improvements. In addition, estimated costs and potential funding opportunities will be identified to further build this implementation plan.

Reinventing Hal Greer Boulevard into a vibrant, active corridor that serves the needs of the community and supports economic growth in greater Huntington and for communities like Fairfield will not happen overnight, or even in the course of a year. However, changes can start to happen immediately that will lay the framework for this vision.



Discussing the results of the charrette at the public meeting.



A symposium participant pointing to and discussing their comments on Hal Greer.

Policy Action Items

Hal Greer Boulevard is changing fast, and it is expected to be further impacted by development in the area. In order to protect the interests of the community and restore the character in Fairfield, guidance and policy measures are needed to ensure positive change occurs.

Guidance and policy should:

- ❑ Ensure that the Hal Greer corridor becomes a community asset where it previously has been a barrier
- ❑ Create desirable economic growth through infill development and redevelopment
- ❑ Promote and preserve transportation mobility and safety for every type of user along and across the street
- ❑ Promote the development of appropriately dense, affordable housing and a complementary mix of commercial uses that support walkability and the needs of college age, family orientated, and aging community members

Private and public development actions must be designed to coordinate with these objectives for the corridor to work in the ways that the public and stakeholders suggested. The following regulatory recommendations are provided as guidance for policymakers and are not adopted as part of any overall zoning code with the adoption of this plan. Applying these recommendations, whether through ordinance, design standards, or policy modifications, would typically require partnership between landowners, developers, the City of Huntington, KYOVA, and WVDOH.

ZONING RECOMMENDATIONS

The City of Huntington uses a traditional zoning model with much of the corridor zoned as C-1 Neighborhood Commercial or C-2 Highway Commercial. The City is currently in the process of reexamining the existing zoning ordinance for the C-1 district. While the City is still in this process, the Consultant did a preliminary review of the May 2019 draft version of the ordinance and recommends further collaboration between the City and a planning consultant to update the City of Huntington zoning ordinances.

CORRIDOR OVERLAY DISTRICT

With the influence of Cabell-Huntington Hospital and Marshall University, both large campuses and economic drivers, the Fairfield Community has no defined sense of place between these two major anchors. One way to elevate and preserve the community environment, as well as acknowledge all three as independent destinations, is to establish future pedestrian-focused and neighborhood specific elements and guidance. Overlay Districts to ensure that the urban design characteristics reflect the recommendations and intent of this Plan.

The Consultant provided a Sample Text for a Fairfield Heritage Corridor Overlay. This sample should be further examined by the City before being incorporated into any new or existing zoning ordinance. It is recommended that the City retain a consultant to reevaluate and updated the zoning ordinance. In order to utilize the Corridor Overlay, the City and community must determine the boundaries of the overlay, as well as determine the appropriate stylistic recommendations for this community. Additionally, the current zoning ordinance and the overlay would greatly benefit from the addition of detailed example illustrations to support the text. All sample imagery shown with the sample text that follows would not be directly applicable to Huntington. The sample text specifies a Fairfield Heritage District that begins at the viaduct and ends before the hospital and incorporates the conceptual design for the **Fairfield Heritage Trail on page 162**.

Sample Corridor Overlay Text

Purpose. To formalize and establish a neighborhood character for the Fairfield Innovation District that tells the story of the African American community and establishes Hal Greer Boulevard as a neighborhood boulevard. The Fairfield Heritage Overlay promotes pedestrian-oriented, mixed-use development, public art, and green infrastructure. The following standards and overlay district requirements apply to properties abutting Hal Greer Boulevard from the CSX Viaduct and 8th Avenue to Charleston Avenue, and to any new projects seeking construction permitting up to two (2) blocks off Hal Greer Boulevard in either direction.

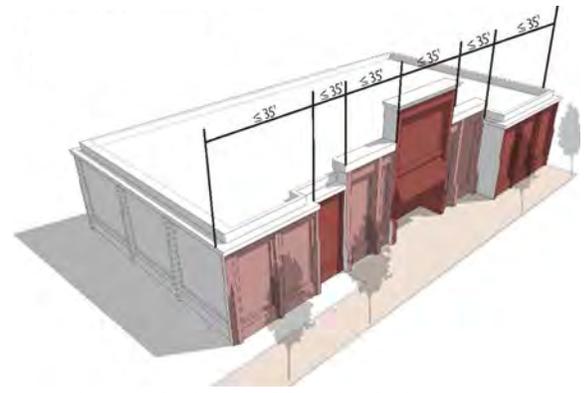


Image from the Davidson, NC Planning Ordinance.

Development Process. Creativity in meeting the standards outlined in the Fairfield Heritage District are strongly encouraged and supported by the City of Huntington. The applicant is therefore recommended to present a preliminary sketch plan to review with the City staff early in the design and planning process to work collaboratively to meet or exceed these minimum standards. Applicants are encouraged to research the history of Fairfield during the development of site plans, sketches, and elevations. Detailed site designs and elevations must be submitted to the Town in accordance with town and state standards and regulatory requirements.

Incorporation. The Fairfield Heritage Overlay District for the City of Huntington, as set forth on a map entitled and dated _____ is hereby adopted by reference as an element of the 2019 revised Huntington Zoning Ordinance and the Official Zoning map of the City of Huntington. These standards do not in any way override existing or future historic district or structure standards established in law or ordinance by the City of Huntington, State of West Virginia, or federal rule. Incentives for stormwater BMP incorporation, streetscape improvements, signage improvements, and facade improvements are detailed in subsequent sections of the code. All provisions of the Fairfield Heritage Overlay District shall apply when a property changes use or undergoes a major development or redevelopment that exceeds 50% of the current value of the existing building(s) on the site.

Building Design. The purpose of the following standards, which may be excepted only by the City of Huntington Planning Board during a regular meeting open to the public, is to help guide development size, density, and appearance in order to ensure compatibility with high-value and historic architectural standards associated with

the City. Generally, the design, massing, and style of buildings and lots shall be strongly related to the street and pedestrian scale.

Signage. Generally, ground-mounted signs and self-illuminating signs are prohibited unless required by WVDOH or the City of Huntington for traffic control purposes or as noted below. Signage should be geared towards pedestrians. Plastic signage is not permitted. Additional provisions follow:

Wayfinding. Ground-mounted wayfinding signage is permissible and shall be no more than eight (8) feet in height on black enameled, metal, cylindrical poles. All wayfinding signage is to follow the approved City of Huntington wayfinding signage standards.

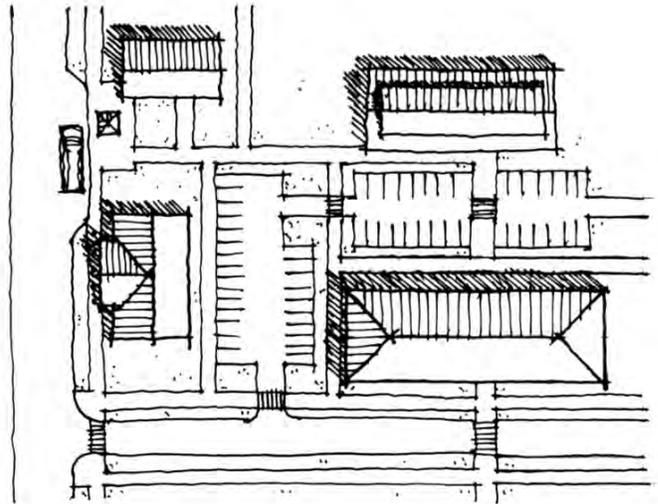
Location. Wall-mounted signs (preferred) may not extend above any portion of the roofline. Temporary signs (e.g., sandwich boards) must be constructed of wood or metal, shall not exceed four feet (4') in height, and shall be removed at the end of each business day.

Size. Signage shall not exceed ten percent (10%) of the total, exterior wall space (excluding doors, windows). Billboards are not permitted.

Parking. Generally, parking shall be provided to the rear of the building and sides. Side parking would need to be screened from the street in some manner, either with landscaping or built elements. Additional provisions follow:

Shared Parking. Two or more property owners with complementary uses and hours of operation shall be allowed to share a parking area within 800' of the front entrance(s) of the primary building(s).

Off-Site Parking. Where on-street parking is available immediately facing the front of the entrance of the primary building, off-street parking requirements are reduced by 50% from applicable standards. Additional reductions may be allowed for properties that are on active transit routes with dedicated areas for bus stops facing the property; marked carpool-only spaces; and / or bicycle parking using post-and-loop or equivalent facilities.



Sketch illustrating rear shared parking.



Illustration showing streetscape elements and awnings.

Streetscaping. Building owners are required to contribute to the streetscape in the Fairfield Heritage District. Street trees are to be planted every 40-60 feet along the main or arterial roadways. Pedestrian streetlights, the exact type and model as specified by the City of Huntington, are to be placed every 50-60 feet. Sidewalks are to be a minimum of 6 feet and are to be constructed. Commercial storefronts are required to maintain streetscape furnishing and amenities approved by the City. Facades should include fenestration and awnings. Incorporating Fairfield history or public art is highly recommended. Landowners and businesses that contribute to the Heritage Trail along Hal Greer Boulevard will be included in printed Heritage Trail materials and be afforded greater flexibility in the street furnishing and facade design, at the discretion and approval of the City and the Planning Board.

LANDSCAPING AND STORMWATER TOOLS & RECOMMENDATIONS

Hal Greer Boulevard has a documented problem with flooding shutting down access through the viaduct, which backs up stormwater and sewage a few times a year during major storm events. The recommended solution noted in the KYOVA Huntington Street Flooding Mitigation Plan is the installation of multiple micro detention sites and green infrastructure along with a new stormwater pump. While some green infrastructure can be constructed within the public right-of-way, it will be most effective if property owners and developers incorporated best management practices on their property. Currently, the City of Huntington does not have a Storm Water Management Plan or Green Infrastructure Policy. By incorporating stormwater management requirements into current policy changes, the community and the city can both benefit from an improved stormwater system.

The US Environmental Protection Agency has several policy guides available to assist local governments in developing policy and best design practices that promote green infrastructure and case studies available for review. Several options that would be easily applied to Hal Greer Boulevard and the City of Huntington through the implementation of a policy or program are summarized here.

[<https://www.epa.gov/green-infrastructure/policy-guides>]

Stormwater Fee Discount:

The City of Huntington implemented a Water Quality Fee in 2017. This mainly impacts any parcels that are not single-family residences, including multi-family residential, commercial, industrial, and institutional properties are subject to this fee. A number of communities with similar fees are offering stormwater fee discounts and incentives to property owners for making site changes that incorporate green infrastructure BMPs and reduce stormwater runoff.

Property owners must complete the site changes and should meet management goals that are set by the City before the credit or discount is awarded. It is important to note that municipalities should set a maximum percentage for the discount to ensure needed revenue is still being generated. There are several ways to set up a discount program and they depend on the goal the City has for the program. These are listed in **Table 8.1**. Philadelphia has a Stormwater Fee and offers a Credit Program to reduce their fees.

[https://www.phila.gov/water/PDF/scaa_manual.pdf]

TABLE 8.1: STORMWATER FEE DISCOUNT PROGRAM FRAMEWORK		
Goal of Discount	Mechanism for Fee Reduction	Process for Implementation
Reduce Impervious Surfaces	<ul style="list-style-type: none"> — Percent fee reduction — Per-square-foot credit 	<ul style="list-style-type: none"> — Percent reduction in impervious surface area — Square feet of pervious surfaces
On-site Management	<ul style="list-style-type: none"> — Percent fee reduction — Quantity/Quality credits (performance-based) 	<ul style="list-style-type: none"> — List of practices with associated credits — Total area (square feet) managed
On-site Management	<ul style="list-style-type: none"> — Percent fee reduction — Performance-based quantity reduction 	<ul style="list-style-type: none"> — Percent reduction in impervious surface area — Performance-based — Total area (square feet) managed — Practices based on pre-assigned performance values
Use of Specific Practices	<ul style="list-style-type: none"> — Percent fee reduction — One time credit 	<ul style="list-style-type: none"> — List of practices with associated credits

(US Environmental Protection Agency. "Green Infrastructure Case Studies: Municipal Policies for Managing Stormwater with Green Infrastructure". (2010, August). US)

Development Incentives

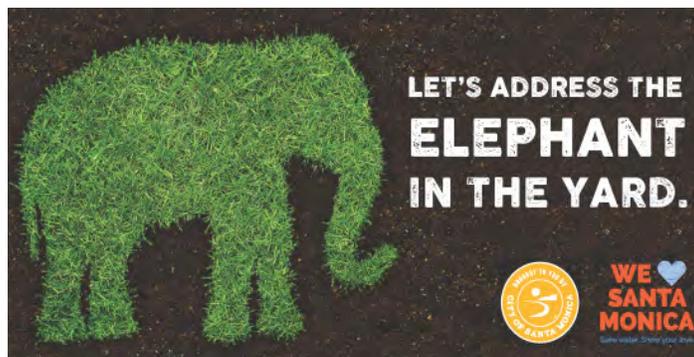
New development and redevelopment are occurring around the City of Huntington, and the Hal Greer Corridor has already seen new construction and will continue to do so. In preparation for this, writing new policies that include development incentives for incorporating green infrastructure in site plans should be a priority. Incentivizing stormwater regulation and infrastructure encourages developers to creatively address on-site management. In exchange for improvements, the standards and requirements, of which must be determined by the City for rewards, can include benefits including zoning upgrades, expedited permitting, and reduced stormwater requirements.

Portland, Oregon has seen success with their development incentive program: Portland's Ecoroof Floor Area Ratio Bonus led to 130 projects constructed between 2008 and 2012 and created more than 8 acres of ecoroofs. Capitalizing on this continued success, Portland recently included an ecoroof requirement for all new buildings larger than 20,000 square feet in their Central City 2035 Plan.

[<https://www.portlandoregon.gov/bes/article/547491>]



Established ecoroofs in Portland. (City of Portland)



Digital banner on the Cash for Grass Program. (City of Santa Monica)



Finished projects receive this yard sign. (City of Santa Monica, Youtube)

Rebates & Installation Financing

In the case of Huntington, individual homeowners are exempt from the Water Quality Fee, but this group can still be encouraged to add green infrastructure projects to their property by submitting for a City sponsored rebate and installation financing program. Homeowners can be directly refunded for the cost of installing rain barrels or rain gardens, or they can be given incentives for adding rain gardens or disconnecting downspouts. This approach can be fitted to the specific needs of Huntington. The City can identify areas or properties where on-site management would be most beneficial to the maintenance of the stormwater system and offer larger incentives for homeowners in those areas, in addition to specifying the type of infrastructure that is applicable and appropriate design and planting standards. Santa Monica offers the Cash for Grass Rebate program to encourage residents to plant climate appropriate plants and incorporate rain harvesting infrastructure on their property. The city provides free consultations and the program is set up for applicants to apply prior to starting their project and schedule a final inspection after it is completed.

[<https://www.smgov.net/uploadedFiles/Departments/OSE/Categories/Water/Cash%20for%20Grass%20Rebate%20Guide%20FY19-20%20WEB-EMAIL%20FINAL.pdf>]

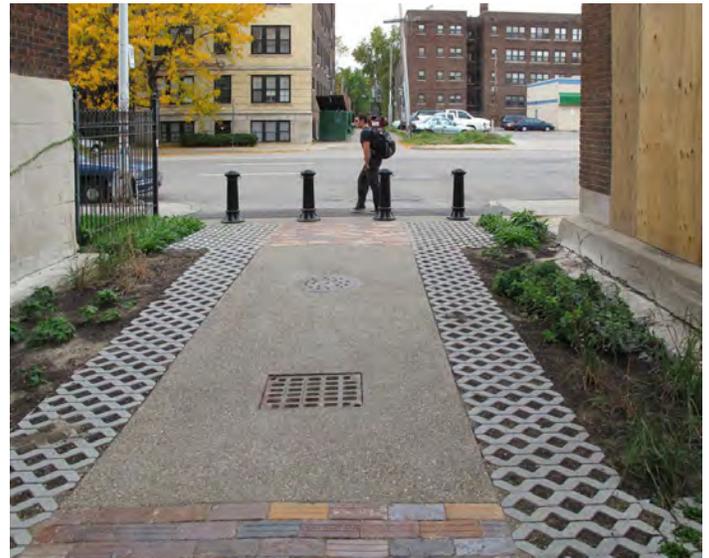
Green Alleys

One interesting project worth noting is the city of Chicago's Green Alley Program. Implemented in 2001, the Green Alley Program was created to mitigate flooding in the alleys without costly connections to the extensive sewer system. Green Alleys incorporate a number of techniques including proper pitching and grading, permeable pavements, reflective pavement, recycled construction materials, and dark sky compliant light fixtures. Benefits of such improvements include reductions in stormwater runoff, stress to the sewer system, urban heat island effect, waste hauled to landfills, and light pollution. Through 2017, over 300 Green Alleys were completed.

[https://www.chicago.gov/content/dam/city/depts/cdot/Green_Alley_Handbook_2010.pdf]



Green Alley under construction. (City of Chicago)



Completed Green Alley.. (Green Garage, Detroit, Michigan, NACTO)

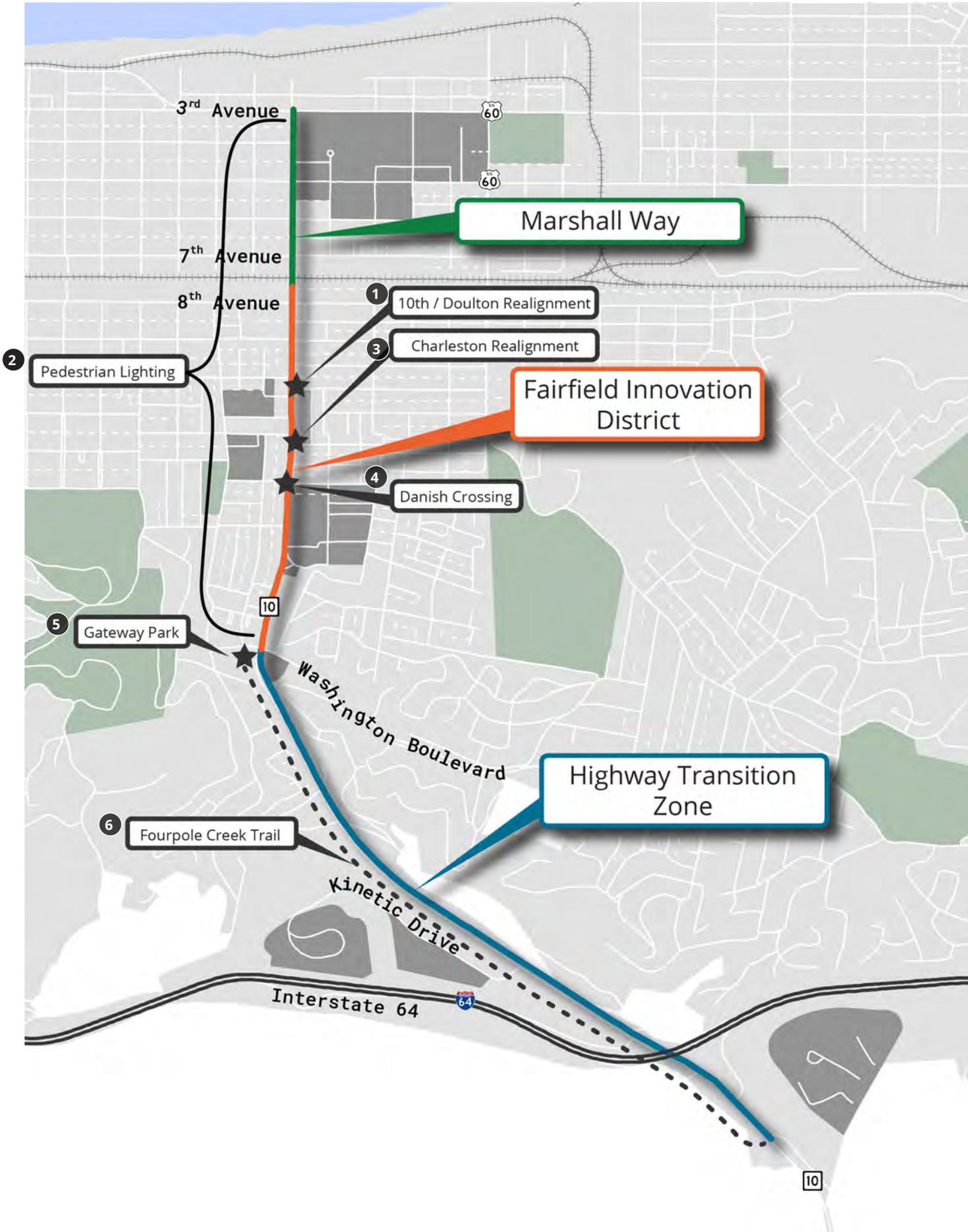
Project List

In order to ensure the constructability of the concept design, the project team, along with the City, WVDOH, and KYOVA, worked together to break down the corridor design into manageable projects. By dividing the corridor into context zones, each portion of the plan can be constructed on a prioritized timetable that is adapted to the needs of the corridor, the business community, residents, and users of the corridor. The corridor is divided into the three segments, reflecting the different cross sections for each. Separate from these segments are six proposed independent projects that are either directly on or just off of the corridor. Two of these projects are already funded by the City and KYOVA, two must be done in conjunction with development along Hal Greer, and two are located just off the corridor and have minimal direct impact to the roadway. **Map 8.1** shows the locations of the nine projects and **Table 8.2** details what is included with each project.

What I like most about this project is that it will bring more and improved lighting and cultural highlights to the community.

— Sandra Clements, Former City Council Member, Fairfield Alliance





MAP 8.1: CONCEPT DESIGN PROJECT LOCATIONS

Segment	Description	Length
Marshall Way / 3rd to 8th	Reduce 4-lane roadway to 3-lane with planted pocket medians, roadway resurfacing. Construct parallel parking protected cycle track along one side of roadway with permeable pavement and barrier open to drainage. Install brick paved or stamped crosswalks at Marshall University intersections. High visibility crosswalks and pedestrian countdown signals at intersections. Connect sidewalks and install 10' multiuse path on northeast side of the roadway. Install small trees in tree grates, large/medium street trees, planted buffers, stormwater BMPs, and median plantings. Install furnishings including benches, bike racks, and trash receptacles.	0.49 miles
Fairfield Innovation District / 8th to Washington	Roadway resurfacing. Install 8'-10' multiuse sidepath on the northeast side of the roadway. Add pocket medians where suggested. Install median protected midblock crossings with Rectangular Rapid Flashing Beacons. Install high visibility crosswalks and pedestrian countdown signals at intersections. Install small trees in tree grates, large/medium street trees, planted buffers, stormwater BMPs and median plantings. Install furnishings including benches, bike racks, and trash receptacles. Includes realignment of CHH entrance.	0.89 miles
Highway Transition Zone / Washington to HHS	Install 6'-10' multiuse sidepath (resurface northbound shoulder) with concrete barrier protection from Washington Blvd to Kinetic Dr. Install high visibility crosswalks and pedestrian countdown signals at intersections. Install vehicular level lighting where lighting gaps exist at 150'-200' on center, seed grass medians, and large/medium street trees. No roadway resurfacing assumed.	1.94 miles

Note: Right-of-way impacts are approximately 400' linear feet or 0.14 acres.

Project	Description	Map ID
10th and Doulton Realignment**	Realign 10th Avenue with Doulton Avenue. Cul-de-sac or tie in alley. Modify mast arm signals, high visibility crosswalks, and pedestrian level countdown.	1
Pedestrian & Vehicular Level Lighting*	Install and upgrade pedestrian level and vehicular level lighting from 3rd Ave. to Washington Ave. Note: this is a committed project by KYOVA and the City	2
Charleston Realignment**	Realign Charleston Avenue. Modify mast arm signals, high visibility crosswalks, and pedestrian level countdown.	3
Danish Crossing*	Install Danish crosswalk and pedestrian signals at Columbia Boulevard and 13th Avenue intersection. Note: this is a committed project by KYOVA	4
Gateway Park	Design, grade, and construct park design with trees, plantings, decomposed granite trails, and plaza space. Install benches, arbors, planters, trash receptacles, pedestrian level lighting, and large letter sign.	5
Fourpole Creek Trail	Grade and construct decomposed granite trail (10' - 12' multiuse path) , assumes minimal grading work needed. Install bridges and trail heads.	6

Note: (*) indicates a currently funded project; (**) indicates that developer participation is needed.

ESTIMATED COSTS SUMMARY TABLE

As the projects were separated and identified, project construction costs estimates were drafted using industry standard unit costs for construction. Right-of-way acquisition costs were not included, and a 10% design fee and 30% contingency were included. These estimates are for 2019 costs and subject to change with industry and inflation for subsequent years.

TABLE 8.3: HAL GREER BLVD ESTIMATED CONSTRUCTION COSTS SUMMARY			
Segment / Extents	Roadway Est. Cost	Streetscape Est. Cost	Total Est. Cost
Marshall Way / 3rd Avenue to 8th Avenue Length: 0.49 mi	\$1,248,000	\$516,000	\$1,764,000
Fairfield Innovation District / 8th Avenue to Washington Boulevard Length: 0.89 mi	\$2,617,000	\$1,503,000	\$4,120,000
Highway Transition Zone / Washington to Huntington High School Length: 1.94 mi	\$814,000	\$912,000	\$1,726,000
Subtotal			\$7,610,000
Project (Independent Projects not included in the cost estimates listed in table above)	Total Est. Cost		
10th Avenue and Doulton Avenue Realignment**	\$601,000		
Pedestrian & Vehicular Level Lighting*	\$900,000		
Charleston Avenue Realignment**	\$544,000		
Danish Crossing*	\$825,000		
Gateway Park	\$881,000		
Fourpole Creek Trail	\$990,000		
Subtotal	\$4,741,000		
Total for All Improvements	\$12,351,000		

Note: Cost Estimates are based on 2019 figures and estimates and are subject to inflation. Assumptions include 10% design fee, 30% contingency, and does not include right-of-way acquisitions costs. Right-of-way impacts are approximately 400' linear feet or 0.14 acres.

(*) indicates a currently funded project; (**) indicates that developer participation is needed.

Financing a Complete Vision

In order to see this Plan to fruition, the construction design and implementation needs to be financed. The City should take opportunities to leverage local funds to access state, federal, and private funds in order to achieve this vision. In collaborating with major players like Marshall University and Cabell-Huntington Hospital, the concept design and transformation of Hal Greer can be realized. The following are several funding sources to help with moving this effort forward.

FUNDING OPPORTUNITIES

KYOVA Interstate Planning Commission (Regional Government Funding)

KYOVA administers the Transportation Alternatives Program (TAP), the Transportation Improvement Program (TIP), and Surface Transportation Block Grant Program (STBGP) which was formerly the Surface Transportation Program (STP). The funds for these programs come from the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) and are used on roadway projects that have been submitted to and ranked by the MPO staff. Once considered and approved by the Policy Committee, the funds are committed for project implementation.



The Transportation Improvement Program (TIP) provides the mechanism for scheduling funding for transportation projects in the short term. It specifies the source of the funding and distributes monies based on need and availability. In addition, it provides information on transportation projects that are not federally eligible.

STBGP funding is used for roadway focused projects, including corridor redesigns, intersection improvements, realignments, and other similarly defined projects. TAP funding is used for projects or programs that are defined as transportation alternatives, such as on- and off-road pedestrian and cyclist facilities, infrastructure projects to improve sidewalk connectivity, safe routes to school projects, recreational trail programs, and other similarly defined projects.

[\[http://www.kyovaipc.org/stbgp.php\]](http://www.kyovaipc.org/stbgp.php)

West Virginia Department of Transportation and Department of Highways (State / Federal Funding)

State and Federal Funding are often administered together, with the federal government releasing funds to each state based on need and availability. Statewide roadway improvement funds are allocated through the State Transportation Improvement Program (STIP) which is federally required and covers a six-year period, but it is updated annually. STIP lists all projects that are candidates for federal-aid and regionally significant projects that are not using federal dollars.

[\[https://transportation.wv.gov/highways/programplanning/STIP/Pages/default.aspx\]](https://transportation.wv.gov/highways/programplanning/STIP/Pages/default.aspx)



WVDOH also manages several grant programs: the Transportation Alternatives Program (TAP), the Recreational Trails Program (RTP), and the West Virginia State Trails Program. The TAP and RTP are both 80% federal, 20% local match reimbursement programs, with TAP being more flexible in its application and with the RTP typically available for the construction, upgrade or maintenance of both motorized and non-motorized recreational trails. Projects located within Economically Distressed Areas or At-Risk Areas as defined by the Appalachian Regional Commission (ARC) are eligible for 100% federal funding. Hal Greer Boulevard from Washington Boulevard to 8th Avenue falls into the distressed category and may be eligible for additional funding.

[<https://transportation.wv.gov/communications/PressRelease/Pages/Highways-Opens-2019-Online-Grant-Application-System-for-Non-Traditional-Transportation-Projects.aspx>]

[https://transportation.wv.gov/highways/programplanning/planning/grant_administration/recreationaltrails/Pages/default.aspx]

City of Huntington (Local Government)

Local government officials are committed to the improvement of their municipality, and the City of Huntington has been working tirelessly to create positive change. This has been recently evident in the Fairfield Innovation District project the Housing Authority is spearheading which has overlapped and shared space with the development of this Plan. The City is working hand-in-hand with other agencies to ensure the Hal Greer Boulevard concept design moves ahead.



The City's Community Development department manages several loan programs and the Community Development Block Group Grant Program, funded by the US Department of Housing and Urban Development (HUD). The main goal of these programs are increasing home ownership and services for low income communities, with the local City run loans focusing on fair housing and rehabilitating residential buildings.

[<http://www.cityofhuntington.com/city-government/city-departments/development-planning/community-development>]

Additional Funding Sources

The City and community organizations can seek additional funding or create more funding opportunities to further support the desired development and redevelopment along Hal Greer Boulevard.

Facade Improvement Incentive Grants and Loans

Facade Incentive programs are in effect across the country and showing success in communities with historic buildings or areas that had fallen into disrepair. Property owners or business owners can apply with the city for funding, often in matching grants up to a specified amount, to be used for painting, repair, maintenance, and visual restoration of a building facade. These programs are often begun with the adoption of a revitalization effort or downtown plan and should include clearly defined goals, target areas, criteria for participation, defined eligible and ineligible activities, design and signage standards, and a clear application and selection process. Morgantown, West Virginia, offers a 50/50 deferred loan that covers half of the project costs up to \$10,000. As a deferred loan, the applicant must invest a minimum of \$20,000 in order to receive the maximum amount back from the City of Morgantown. The application also specifies the design must be submitted, properly permitted, and maintain historic consistency as determined by a Facade Committee.

[<http://www.downtownmorgantown.com/wp-content/uploads/2018/10/MSM-Facade-Program.pdf>]

Small Business Loan Revolving Loan Fund

The City of Huntington should consider the creation of a revolving loan fund for small businesses. Federal and state funds are often available to assist in funding this type of program, which is set up as a competitive, low interest loan program. New or expanding small businesses that employ individuals that meet established goals and criteria would be eligible. The U.S. Small Business Administration (SBA) offers federal funding through its grants and loans programs and the West Virginia Small Business Development Center (WV SBDC) offers assistance in securing private, state, or federal funding and resources like dedicated business coaches.

[\[https://www.sba.gov/funding-programs/grants/grants-programs-eligibility\]](https://www.sba.gov/funding-programs/grants/grants-programs-eligibility)

[\[https://wvsbdc.com/resource?\]](https://wvsbdc.com/resource?)

Public/Private Partnerships

Public/Private Partnerships are designed to accomplish a combination of goals related to economic and community development efforts, some of which have been identified in this plan. Public funds must only be made available to those projects determined otherwise unfeasible or unachievable “but for” the combined efforts of public and private participation. The projects must comply with community adopted standards and program guidelines established for that area. The City is fortunate to have two major economic centers invested in the future of the Hal Greer Boulevard Corridor and the City itself. In partnering with Marshall University and Cabell-Huntington Hospital, the Hal Greer concept design has two vital champions who had leadership involved as active committee participants throughout the planning and design process. These two relationships can greatly advance the implementation and success of this Plan.



ACTION ITEMS - HAL GREER ENHANCEMENTS

The timing and proper phasing of strategies and actions are essential to the implementation of the vision for Hal Greer Boulevard. The table below provides a base time frame for engineering design and construction or implementation of projects and policy recommendations for Hal Greer Boulevard. Time frames are subject to change due to availability of funds and materials. The implementation recommendations in the table address the action, timing, mechanism by which the action may be implemented, as well as possible funding sources.

TABLE 8.4: PHASED ACTION ITEMS

Item	Type	Time Frame
Marshall Way / 3rd Avenue to 8th Avenue Improvements	Roadway	1 - 5 years
Fairfield Innovation District / 8th Avenue to Washington Boulevard Improvements	Roadway	1 - 5 years
Highway Transition Zone / Washington to Huntington High School Improvements	Roadway	6 - 10 years
10th Avenue and Doulton Avenue Realignment*	Realignment	1 - 5 years
Pedestrian & Vehicular Level Lighting	Streetscape	1 - 5 years
Charleston Avenue Realignment*	Realignment	1 - 5 years
Danish Crossing	Crossing Improvement	1 - 5 years
Gateway Park	Park	6 - 10 years
Fourpole Creek Trail	Greenway / Trail	10 - 15 years
Establish and Map Overlay Districts	Policy	0 - 1 year
Develop and Adopt Fairfield Heritage Overlay	Policy	0 - 1 year
Establish an Incentivized Stormwater BMP Policy	Policy	0 - 1 year

Note: (*) Realignment time frames are largely dependent on development time frame.

Moving Forward, Together

After years of planning effort, new development, and renewed interest in preserving the Fairfield Community, the Hal Greer Boulevard Corridor Management Study began in fall 2018. The West Virginia Department of Highways, the City of Huntington, and the KYOVA Interstate Planning Commission worked closely with community representatives, the Huntington Housing Authority, Marshall University, Cabell-Huntington Hospital and other regional agencies to develop a plan that addresses the vision and goals for this area.

The following principles, laid out in Chapter 3, provide overall guidance for the redevelopment of Hal Greer Boulevard, enabling the transformation of the corridor and surrounding neighborhoods into a destination and source of community pride.



Principle #1: Pedestrian and Bicyclist Considerations Should Be a Priority

Pedestrian and bicycle movements were supported by recommending 2.5 miles of a continuous multiuse path directly along one side of Hal Greer Boulevard along with crossing improvements at every intersection and mid-block crossing opportunities in key locations.



Principle #2: The Safety of All Users is Critical

Safety was considered in every design decision, starting from identifying which intersections had the highest number of crash incidents to reconfiguring intersections, controlling driveway access, and realigning offset streets in order to make vehicular movement more predictable, as well as redesigning the streetscape to slow traffic without sacrificing efficiency.



Principle #3: Stormwater Issues Must Be Considered

By utilizing better management practices, landscape elements, recommended policy changes, and developer/homeowner incentives, the concept design and policy recommendations aim to lessen the stormwater impacts in this area. Further study and appropriate action need to take place for real change to be realized.

Principle #4: Support Quality Development/ Redevelopment

A more walkable and bikeable Hal Greer Boulevard is more supportive of development. Backed by policy, incentives, and streetscape guidelines, the quality of development and redevelopment can improve, transforming the corridor beyond the curb.



Principle #5: A Boulevard for Everyone

The concept design shows a new Hal Greer Boulevard that is no longer solely for cars. It is a boulevard for doctors and patients walking between appointments. It is a boulevard for students biking between campuses. It is a boulevard for neighborhood kids walking to the community center. It is a boulevard for older residents walking to new shops or a new grocery store. It is no longer a barrier or an arterial, it is a community asset and a place for daily life to happen. It is a boulevard for everyone.



The completion of the plan marks the opportunity for action. To keep this momentum going, continued engagement, continued transparency, and continued advocacy will be needed from all involved. It will need champions and advocates to bring this vision to reality, and only if everyone continues to work together. Through such collaboration, Hal Greer Boulevard can become a healthy, green, and livable corridor that truly is a gateway for the City of Huntington and a community asset for the residents of Fairfield.



Hal Greer Boulevard is a major thoroughfare in Huntington and is the heartbeat of the Fairfield community. It connects the growth of Cabell-Huntington Hospital to the growth of Marshall University. In short, the redesign and redevelopment of Hal Greer Boulevard is crucial to and indicative of the redesign and redevelopment of Huntington.

— Stephen T. Williams, Mayor





October 2019



Stantec