

APPENDIX B



ALTERNATIVE EVALUATION

ALTERNATIVE EVALUATION

The greenway corridor was examined both through in-field observation and desktop analysis. The corridor presented a number of points where decisions were needed to determine the most appropriate alignment. While decisions were needed at each of the decision points, some were very straightforward and did not require an evaluation of alternatives. Where multiple, viable alternatives were present, an evaluation was performed using the evaluation criteria presented below.

1. Ability to gain property owner permission, minimize property acquisition
2. Ability to increase visual and/or physical access to the Saluda River
3. Ability to connect surrounding areas/residents to the greenway network
4. Ability to avoid/mitigate environmental impacts
5. Ability to simplify construction and maintenance access
6. Ability to reduce overall cost

Figures B.1-1, B.1-2, and B.1-3 present the three segments of the greenway corridor and the various decision points. Following that, alternatives are evaluated for decisions points that required such.



Figure B.1-1 | Alignment Segment One



Figure B.1-2 | Alignment Segment Two

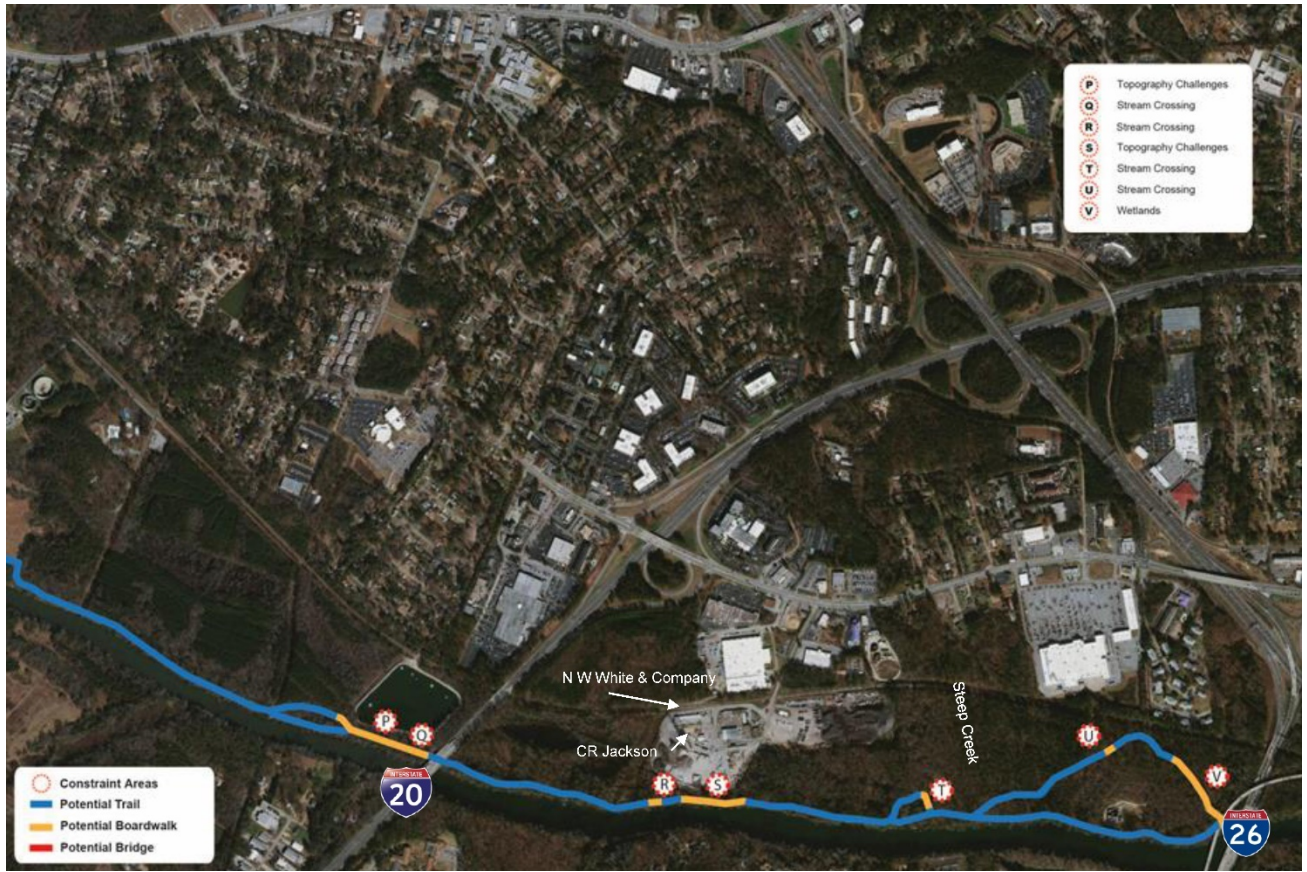


Figure B.1-3 | Alignment Segment Three

Decision Point A

The proposed crossing at the intersection of North Lake Drive (SC 6), Lake Murray Boulevard (SC 60), and Bush River Road (S-107) presents three (3) different alternatives. The proposed crossing occurs at an intersection where all roadways are under the jurisdiction and maintenance of the South Carolina Department of Transportation (SCDOT) and will require agency approval.

Alternative A-1 includes an at-grade crossing on North Lake Drive (SC 6) at the intersection. It would appear that all permissions and right-of-way necessary to achieve this crossing could be obtained from SCDOT. Further, construction and access maintenance would be available due to the existing in-place crossing. Environmental impacts appear minimal due to the existing crossing providing in-place infrastructure and a footprint that could be expanded upon.

Alternative A-2 includes a tunnel crossing under North Lake Drive (SC 6). It does not appear any additional environmental impacts would be necessary due to tunneling under the existing roadway. However, A-2 presents many limitations as it is undetermined if SCDOT would allow a tunnel under their roadway. The costs to design, engineer, and construct the tunnel would likely be very high. Construction access would also be difficult due to the complexity of tunnel construction and the traffic volume associated with the intersection and surrounding roadways. Additional property and/or right-of-way acquisitions would likely be necessary and increase the project cost. Finally, tunnels are often perceived as dangerous, so greenway visitors may be reluctant to use the tunnel.

Alternative A-3 includes a pedestrian bridge that would aerially cross North Lake Drive (SC 6). The bridge crossing would appear to allow all permissions and right-of-way necessary to construct the crossing to be obtained from SCDOT. Environmental impacts would appear minimal with construction and maintenance access better than A-2 but not A-1. The costs to design, engineer, and construct the pedestrian bridge would likely be high. Similar to A-2, greenway users may be reticent to use a bridge, as it would require a significant additional travel distance to meet ADA requirements for ramps and switchbacks.

All three Alternatives (A-1, A-2, & A-3) present limitations in the distance they would be from the Saluda River both visually and physically, as no direct access is achievable. Also, due to the location of the intersection, the crossing alternatives would meet limited criteria to provide connection to area residents to the greenway network. Considering these shared limitations and the additional criteria presented in the evaluation matrix, Alternative A-1 received the highest chance to meet the overall evaluation criteria.

Figure B.1-4 | Decision Point A



EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS		
	A-1	A-2	A-3
Ability to gain property owner permission, minimize property acquisition	H	L	H
Ability to increase visual and/or physical access to the Saluda River	N/A	N/A	N/A
Ability to connect surrounding areas/residents to the greenway network	M	M	M
Ability to avoid/mitigate environmental impacts	H	H	H
Ability to simplify construction and maintenance access	H	L	M
Ability to reduce overall cost	H	L	L
OVERALL	H	L	M

Table B.1-1 | Decision Point A Alternative Evaluation

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

Decision Point G

The proposed route of the greenway at the Dominion laydown yard directly across from Bilton Road presents two (2) different alternatives. The proposed route of the greenway will occur exclusively on Dominion property and will require their permission.

Alternative G-1 includes a greenway alignment that stays north of the laydown yard. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion. Further, construction and access maintenance would be available due to the access in-place for the existing laydown yard. Environmental impacts appear minimal due to the trail being low impact construction all at ground level. The location of the northern alignment would also be closer to Bush River Road (S-107) and allow possible connections to the surrounding neighborhoods and residential areas. It would appear that project costs would be lesser due to no special construction practices being needed.

Alternative G-2 includes a greenway alignment that stays south of the laydown yard. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion but may be more difficult to obtain than G-1. Environmental impacts would be minimal as with G-1 due to low impact construction at ground level. The location of G-2 being further away from the existing laydown yard would likely increase construction and maintenance costs. The ability to connect to the surrounding neighborhoods would also be hindered due to the increased distance from Bush River Road (S-107).

Both Alternatives (G-1 & G-2) present limitations in the distance they would be from the Saluda River both visually and physically, as no direct access is achievable. Considering these shared limitations and the additional criteria presented in the evaluation matrix, Alternative G-1 appears to receive the highest chance to meet the overall evaluation criteria.

Figure B.1-5 | Decision Point G



EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS	
	G-1	G-2
Ability to gain property owner permission, minimize property acquisition	H	M
Ability to increase visual and/or physical access to the Saluda River	N/A	N/A
Ability to connect surrounding areas/residents to the greenway network	H	M
Ability to avoid/mitigate environmental impacts	H	H
Ability to simplify construction and maintenance access	H	M
Ability to reduce overall cost	H	H
OVERALL	H	M

Table B.1-2 | Decision Point G Alternative Evaluation

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

Decision Point J

The proposed route of the greenway to the west of the Cornerstone Church property presents two (2) different alternatives. The proposed route of the greenway will occur exclusively on Dominion property and will require their permission.

Alternative J-1 includes a greenway alignment that stays near the Saluda River and utilizes a bridge crossing over a difficult terrain area. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion. The construction and access maintenance would be available due to the existing topography in this area being manageable. Environmental impacts appear minimal due to the trail bridge being relatively low impact construction. The location of the bridge alignment would allow possible connections to the surrounding neighborhoods and residential areas via the church property. J-1 will also be physically and visually close to the Saluda River. However, the project costs would be higher due to special construction practices being required to construct/place the bridge.

Alternative J-2 includes a north around greenway alignment that lengthens the greenway by moving around the area of difficult terrain. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion. Environmental impacts would be minimal as with J-1 due to low impact construction at ground level. The location and increased length of J-2 would likely increase construction and maintenance costs. The ability to connect to the surrounding neighborhoods would be similar as with J-1. Visual and physical access to the Saluda River would also be lesser than with J-1 due to the increased distance from the river. The overall costs would likely be lesser than J-1 since no bridge would be needed.

Alternative J-2 presents several lesser criteria ratings than J-1. Considering these ratings with the additional criteria presented in the evaluation matrix, Alternative J-1 appears to receive the highest chance to meet the overall evaluation criteria despite the likelihood it is the more costly alternative.

Figure B.1-6 | Decision Point J



EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS	
	J-1	J-2
Ability to gain property owner permission, minimize property acquisition	H	H
Ability to increase visual and/or physical access to the Saluda River	H	M
Ability to connect surrounding areas/residents to the greenway network	H	H
Ability to avoid/mitigate environmental impacts	H	H
Ability to simplify construction and maintenance access	H	M
Ability to reduce overall cost	L	M
OVERALL	H	M

Table B.1-3 | Decision Point J Alternative Evaluation

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

Decision Point K

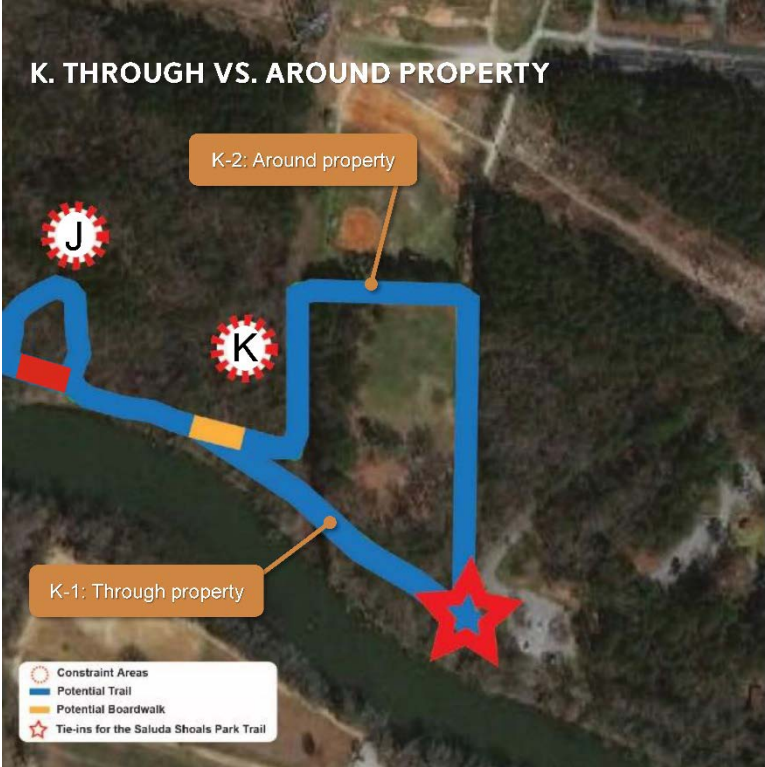
The proposed route of the greenway to the south of the Cornerstone Church property along Bush River Road (S-107) presents two (2) different alternatives. The alternatives presented will involve two (2) property owners, with each alternative occurring on a singular property.

Alternative K-1 includes a greenway alignment that stays near the Saluda River. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from a private property owner. Typically, private property owners are less likely to participate. The construction and access maintenance would be available through the existing church property. Environmental impacts appear minimal as being relatively low impact construction. The location of the alignment would allow possible connections to the surrounding neighborhoods and residential areas via the church property. K-1 will also be physically and visually close to the Saluda River. The project costs would be lower due to significantly less trail length than what would be required for K-2.

Alternative K-2 includes a north around property greenway alignment that lengthens the greenway by routing around a potentially unattainable property easement. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Cornerstone Church. Environmental impacts would be minimal as with K-1 due to low impact construction at ground level. The location and increased length of K-2 would likely increase construction and maintenance costs. The ability to connect to the surrounding neighborhoods would be similar as with K-1. Visual and physical access to the Saluda River would also be lesser than with K-1 due to the increased distance from the river. The overall costs would likely be increased due to the additional length of trail required to go around the property.

Alternative K-1 presents higher criteria ratings than K-2. Considering these ratings with the additional criteria presented in the evaluation matrix, Alternative K-1 receives the highest chance to meet the overall evaluation criteria despite potential difficulty in property and right-of-way acquisition.

Figure B.I-7 | Decision Point K



EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS	
	K-1	K-2
Ability to gain property owner permission, minimize property acquisition	L	H
Ability to increase visual and/or physical access to the Saluda River	H	L
Ability to connect surrounding areas/residents to the greenway network	H	H
Ability to avoid/mitigate environmental impacts	H	H
Ability to simplify construction and maintenance access	H	M
Ability to reduce overall cost	H	M
OVERALL	H	M

Table B.I-4 | Decision Point K Alternative Evaluation

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

Decision Point L

The proposed route of the greenway to the southeast of the existing Saluda Shoals Park presents two (2) different alternatives. The alternatives presented will involve a single corporate property owner.

Alternative L-1 includes a greenway alignment that stays near the Saluda River. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from one corporate property owner. Going through the fence is less desirable than L-2. The construction and access maintenance would be available through an existing roadway. Environmental impacts appear minimal as being relatively low impact construction. The location of the alignment would allow possible connections to the surrounding neighborhoods and residential area. L-1 will also be physically and visually close to the Saluda River. The project costs would be lower due to significantly less trail length required for L-1.

Alternative L-2 includes a north around fence alignment that lengthens the greenway. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from one corporate owner. Environmental impacts would be minimal as with L-1 due to low impact construction at ground level. The location and increased length of L-2 would likely increase construction and maintenance costs. The ability to connect to the surrounding neighborhoods would be similar as with L-1. Visual and physical access to the Saluda River would also be lesser than with L-1 due to the increased distance from the river. The overall costs would likely be increased due to the additional length of trail required to go around the property.

Alternative L-1 presents higher criteria ratings than L-2. Considering these ratings with the additional criteria presented in the evaluation matrix, Alternative L-1 appears to receive the highest chance to meet the overall evaluation criteria.



Figure B.1-8 | Decision Point L

EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS	
	L-1	L-2
Ability to gain property owner permission, minimize property acquisition	M	H
Ability to increase visual and/or physical access to the Saluda River	H	M
Ability to connect surrounding areas/residents to the greenway network	H	H
Ability to avoid/mitigate environmental impacts	H	H
Ability to simplify construction and maintenance access	H	M
Ability to reduce overall cost	H	M
OVERALL	H	M

Table B.1-5 | Decision Point L Alternative Evaluation

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

Decision Point N

The proposed route of the greenway to the south of the Shaw Industries property presents two (2) different alternatives. The alternatives presented will involve a single corporate property owner.

Alternative N-1 includes a greenway alignment that turns to the north and crosses an area of difficult terrain via a short bridge. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from one corporate property owner. The construction and access maintenance would be difficult due to the terrain. Environmental impacts appear minimal being relatively low impact construction. The location of the alignment would allow possible connections to the surrounding neighborhoods and residential area. N-1 will not be physically and visually close to the Saluda River. The project costs would be lower due to the alignment requiring a shorter bridge than N-2.

Alternative N-2 includes a greenway alignment that runs along the Saluda River and crosses an area of difficult terrain via a long bridge. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from one corporate owner. Environmental impacts would be minimal as with N-1 due to low impact construction at ground level. The location and increased bridge length of N-2 would likely increase construction and maintenance costs. The ability to connect to the surrounding neighborhoods would be similar as with N-1. Visual and physical access to the Saluda River would also be greater than with N-1 due to its location adjacent to the Saluda River. The overall costs would likely be increased due to the longer bridge required, even though the actual trail length required would be lesser.

Alternative N-2 presents higher criteria ratings than N-1. Considering these ratings with the additional criteria presented in the evaluation matrix, Alternative N-2 appears to receive the highest chance to meet the overall evaluation criteria despite possibly being the more expensive option.

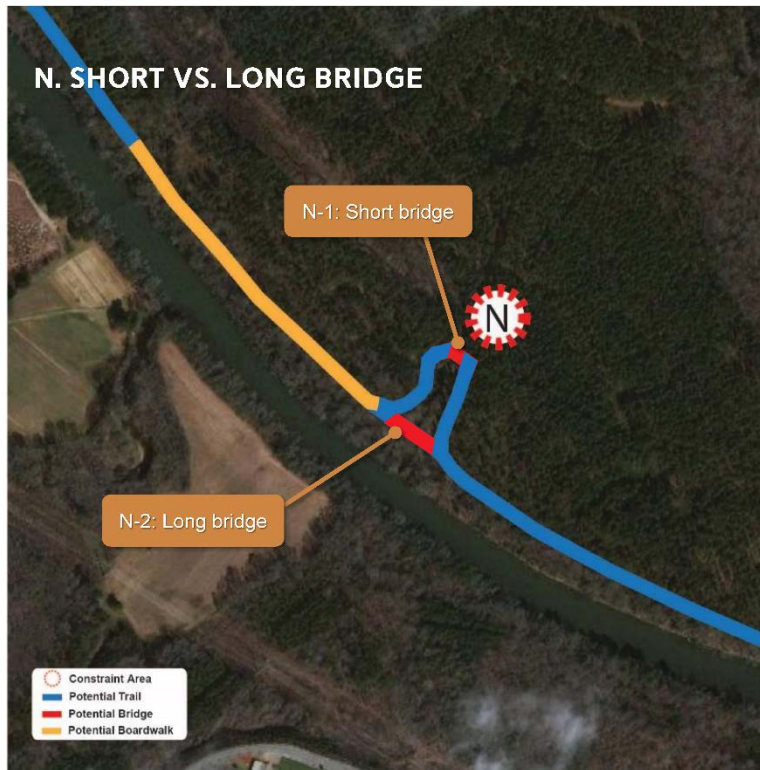


Figure B.I-9 | Decision Point N

EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS	
	N-1	N-2
Ability to gain property owner permission, minimize property acquisition	H	H
Ability to increase visual and/or physical access to the Saluda River	M	H
Ability to connect surrounding areas/residents to the greenway network	H	H
Ability to avoid/mitigate environmental impacts	H	H
Ability to simplify construction and maintenance access	M	H
Ability to reduce overall cost	H	M
OVERALL	M	H

**Table B.I-6 | Decision Point N
Alternative Evaluation**

*H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria*

Decision Point O

The proposed greenway route near the southeastern corner of the Shaw Industries property presents three (3) different alternatives. The three (3) alternatives will all involve Shaw and Dominion properties.

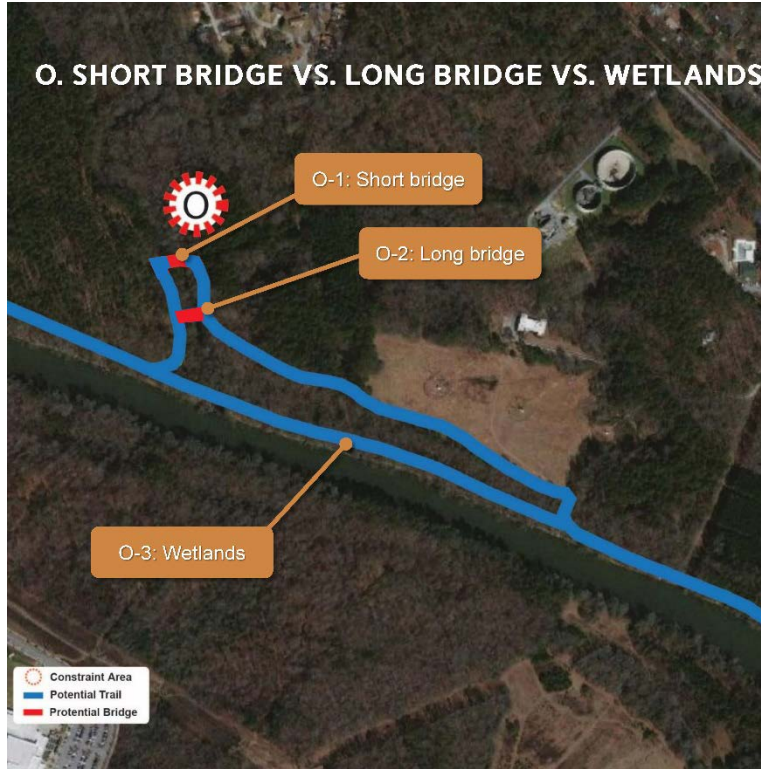
Alternative O-1 includes a greenway alignment that turns to the north and crosses an area of difficult terrain via a short bridge. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Shaw and Dominion. The construction and access maintenance would be difficult due to the terrain. Environmental impacts appear minimal being low impact construction. The location of the alignment would allow possible connections to the surrounding neighborhoods and residential area. O-1 will not be physically and visually close to the Saluda River. The project costs would be lower than O-2 due to the shorter bridge length.

Alternative O-2 includes a greenway alignment that turns slightly less to the north than O-1 and crosses an area of difficult terrain via a long bridge. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Shaw and Dominion. The construction and access maintenance would be difficult as with O-1. Similar to O-1, environmental impacts appear minimal. The location of the alignment would allow possible connections to the surrounding neighborhoods and residential area. O-2 will not be physically and visually close to the Saluda River. The project costs would be higher than O-2 due to the longer bridge length.

Alternative O-3 includes a greenway alignment that runs along the Saluda River. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Shaw and Dominion. Environmental impacts would be minimal as with all alternatives due to low impact construction at ground level. The construction and maintenance costs will decrease due to no bridges specified. The ability to connect to the surrounding neighborhoods would be consistent with other alternatives. Visual and physical access to the Saluda River would also be greater than O-1 and O-2 due to its location adjacent to the Saluda River. The overall costs would likely be decreased due to having lesser length of trail and no bridge present.

Alternatives O-1 & O-2 present varying limitations but are similar overall. Considering the lack of limitations associated with O-3 and the additional criteria presented in the evaluation matrix, Alternative O-3 appears to receive the highest chance to meet the overall evaluation criteria.

Figure B.1-10 | Decision Point O



EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS		
	O-1	O-2	O-3
Ability to gain property owner permission, minimize property acquisition	H	H	H
Ability to increase visual and/or physical access to the Saluda River	M	M	H
Ability to connect surrounding areas/residents to the greenway network	H	H	H
Ability to avoid/mitigate environmental impacts	H	H	H
Ability to simplify construction and maintenance access	M	M	H
Ability to reduce overall cost	M	L	H
OVERALL	M	M	H

Table B.1-7 | Decision Point O
Alternative Evaluation

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

Decision Point P

The proposed route of the greenway to the southeast of the existing Saluda Shoals Park presents two (2) different alternatives. The alternatives presented will involve property owned by Dominion and Palmetto Wastewater Reclamation, LLC respectively.

Alternative P-1 includes a greenway alignment that stays near the Saluda River while going through wetlands. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion and Palmetto Wastewater Reclamation. The construction and maintenance would be difficult due to the wetlands. Environmental impacts appear a minor concern as the trail location is located in jurisdictional wetlands. The location of the alignment would allow possible connections to the surrounding neighborhoods and residential area. P-1 will also be physically and visually close to the Saluda River. The project costs would be higher due to the special construction practices and mitigation necessary to construct in the wetlands.

Alternative P-2 includes a greenway alignment slightly further north that avoids the wetlands. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion and Palmetto Wastewater. Environmental impacts would be minimal as there are no wetlands present. The location of P-2 outside of the wetlands will likely increase construction and maintenance access. The ability to connect to the surrounding neighborhoods would be similar as with P-1. Visual and physical access to the Saluda River would also be lesser than with P-1 due to the increased distance from the river. The overall costs would likely be decreased due to the absence of the wetland costs associated with P-1.

Alternative P-2 presents higher criteria ratings than P-1. Considering the ratings of P-1 with the additional criteria presented in the evaluation matrix, Alternative P-2 appears to receive the highest chance to meet the overall evaluation criteria.

Figure B.1-11 | Decision Point P



EVALUATION MATRIX

Table B.1-8 | Decision Point P
Alternative Evaluation

CRITERIA	POTENTIAL ALIGNMENTS	
	P-1	P-2
Ability to gain property owner permission, minimize property acquisition	H	H
Ability to increase visual and/or physical access to the Saluda River	H	M
Ability to connect surrounding areas/residents to the greenway network	H	H
Ability to avoid/mitigate environmental impacts	M	H
Ability to simplify construction and maintenance access	M	H
Ability to reduce overall cost	M	H
OVERALL	M	H

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

Decision Point T

The proposed route of the greenway to the south of the C.R. Jackson property presents two (2) different alternatives. The proposed route of the greenway will occur exclusively on Dominion property and will require their permission.

Alternative T-1 includes a greenway alignment that stays near the Saluda River while going through wetlands. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion. The construction and access maintenance would be difficult due to the wetlands. Environmental impacts appear a minor concern as the trail location is located in jurisdictional wetlands. The location of the alignment would allow possible connections to the surrounding neighborhoods and residential area. T-1 will also be physically and visually close to the Saluda River. The project costs would be higher due to the special construction practices and mitigation necessary to construct in the wetlands.

Alternative T-2 includes a greenway alignment slight further north that avoids the wetlands. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion. Environmental impacts would be minimal, as there are no wetlands present. The location of T-2 outside of the wetlands will likely increase construction and maintenance access. The ability to connect to the surrounding neighborhoods would be similar as with T-1. Visual and physical access to the Saluda River would also be lesser than with T-1 due to the increased distance from the river. The overall costs would likely be similar as T-1 due to the potential need for a low boardwalk.

Alternative T-1 presents several lesser criteria ratings than T-2. Considering these limitations and the additional criteria presented in the evaluation matrix, Alternative T-2 appears to receive the highest chance to meet the overall evaluation criteria despite the likelihood both alternatives are similar in overall costs.

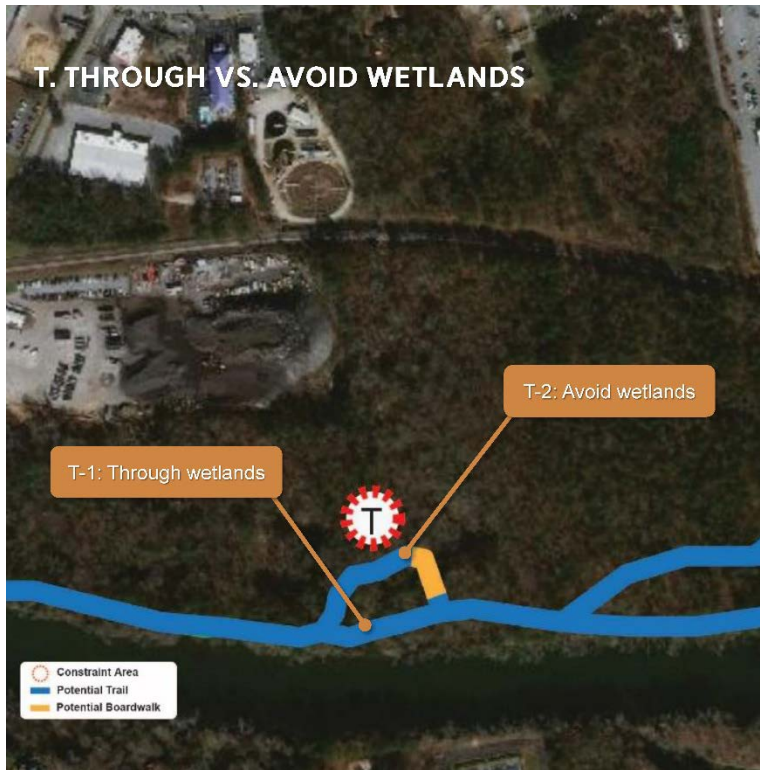


Figure B.1-12 | Decision Point T

EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS	
	T-1	T-2
Ability to gain property owner permission, minimize property acquisition	H	H
Ability to increase visual and/or physical access to the Saluda River	H	M
Ability to connect surrounding areas/residents to the greenway network	H	H
Ability to avoid/mitigate environmental impacts	M	H
Ability to simplify construction and maintenance access	M	H
Ability to reduce overall cost	M	M
OVERALL	M	H

Table B.1-9 | Decision Point T Alternative Evaluation

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

Decision Point U

The proposed route of the greenway to the south of the Walmart and CSX property presents two (2) different alternatives. The proposed route of the greenway may involve Dominion or Synergy, LLP owned properties.

Alternative U-1 includes a greenway alignment that positions to the north of the wastewater treatment plant. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion. The construction and access maintenance would be less cost inhibitive due to the existing access roadway. Environmental impacts would appear minimal, as all construction is low impact. The location of the alignment would allow possible connections to the surrounding neighborhoods and residential area. U-1 will not be physically and visually close to the Saluda River. The project costs would be higher due to longer length of trail and possible low boardwalk required to traverse the terrain.

Alternative U-2 includes a greenway alignment that stays near the Saluda River. It would appear that all permissions and right-of-way necessary to achieve this routing could be obtained from Dominion and Synergy, LLP. However, Synergy, LLP is unlikely to cooperate. Environmental impacts would be similar to U-1. The location of U-2 will likely decrease construction and maintenance access due to its location further away from the access roadway. The ability to connect to the surrounding neighborhoods would be lower as the topography significantly drops to this proposed alignment from the surround residential areas. Visual and physical access to the Saluda River would be high due to the riverside location of U-2. The overall costs would likely be decreased due to not needing low boardwalk and extra trail length.

Alternative U-1 presents several higher criteria ratings than U-2. Considering these ratings with the additional criteria presented in the evaluation matrix, Alternative U-1 appears to receive the highest chance to meet the overall evaluation criteria despite the likelihood it will be the more costly alternative.

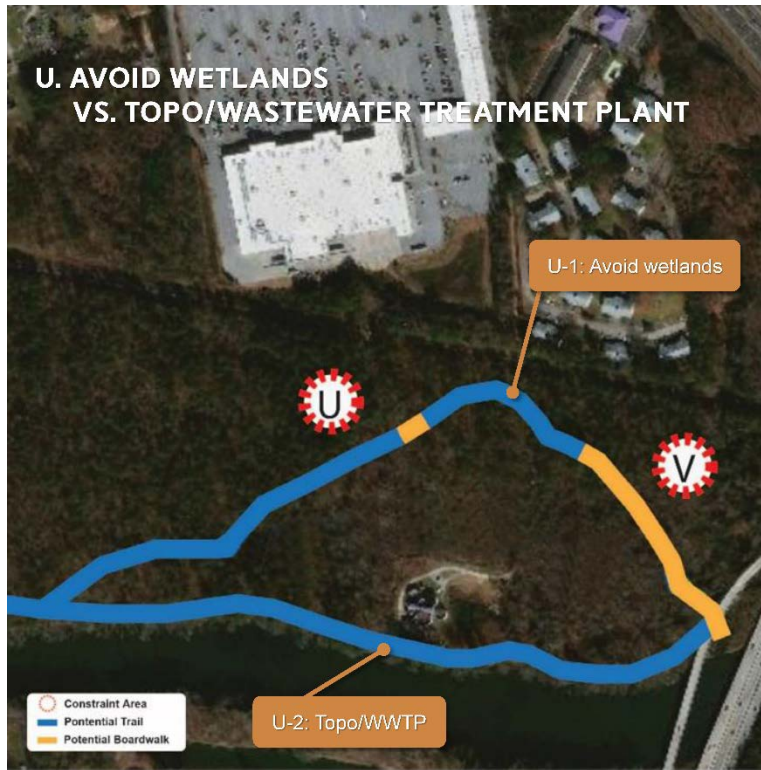


Figure B.I-13 | Decision Point U

EVALUATION MATRIX

CRITERIA	POTENTIAL ALIGNMENTS	
	U-1	U-2
Ability to gain property owner permission, minimize property acquisition	H	L
Ability to increase visual and/or physical access to the Saluda River	L	H
Ability to connect surrounding areas/residents to the greenway network	H	L
Ability to avoid/mitigate environmental impacts	H	H
Ability to simplify construction and maintenance access	H	M
Ability to reduce overall cost	M	H
OVERALL	H	M

Table B.I-10 | Decision Point U
Alternative Evaluation

H = High ability to meet criteria
M = Medium ability to meet criteria
L = Low ability to meet criteria

This page intentionally left blank.