

PLANNING AND BUILDING TRAILS IN UNDER-SERVED URBAN COMMUNITIES WITH MULTIPLE PROJECT PARTNERS

2019 INTERNATIONAL TRAILS SYMPOSIUM





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LEARNING OBJECTIVES

1. How to leverage a variety of investments and partnerships to complete gaps in the trail network.
2. How to accomplish the phasing of a project from master plan to construction.
3. How to prepare trail phases for regulatory design reviews and approvals, bidding, and construction based on the type of funding available.





Memphis, Tennessee

WOLF RIVER GREENWAY

2019 INTERNATIONAL TRAILS SYMPOSIUM





THE VISION



Proposed Greenway Phases			
Points	Phase	Description	Distance
A - B	1	Mud Island to Second St.	1.2 mi. (+/-)
B - C	15	Second St. to Chelsea	2.7 mi. (+/-)
D - E	5C	Chelsea: Evergreen to McLean	0.5 mi. (+/-)
E - F	5A	McLean: Chelsea to Nedra	0.6 mi. (+/-)
F - f	5B	McLean: Nedra to Rodney Baber Prk	1.5 mi. (+/-)
F - G	4	McLean to Hollywood	1.25 mi. (+/-)
G - H	6	Hollywood to Douglass Park	1.9 mi. (+/-)
H - I	7	Douglass Park to N Highland	0.5 mi. (+/-)
J - K	8	N Highland to Epping Way	1.7 mi. (+/-)
K - L	9	Epping Way	1.1 mi. (+/-)
L - m	10A	Epping Way to Jackson Ave	1.0 mi. (+/-)
m - M	10B	Jackson Ave to Kennedy Park	0.7 mi. (+/-)
M - N	11	Kennedy Park	1.5 mi. (+/-)
N - O	12A	Kennedy Park to Covington Pike	1.9 mi. (+/-)
O - P	12B	Covington Pike to Summer Ave.	1.5 mi. (+/-)
P - Q	13	Summer Ave to SF Greenline	1.25 mi. (+/-)
Q - R	14A	SF Greenline to TVA Powerline	1.0 mi. (+/-)
R - S	14B	TVA Powerline to Walnut Grove	1.4 mi. (+/-)
Completed	2	Walnut Grove to Shady Grove	1.6 mi. (+/-)
Completed	3	Shady Grove to City of G'town	1 mi. (+/-)
TOTAL			25.8 mi. (+/-)

Wolf River Greenway Trail Update

Completed Phases (6.4 mi)

Construction Start

- 2017 (1.4 mi)
- 2018 (8.95 mi)
- 2019 (5.85 mi)
- 2020 (3.2 mi)

Other Trails

- Existing Greenway/Trail
- Proposed Greenway/Trail
- Existing Dirt Trail

Land Ownership Legend

- Memphis / Shelby County
- State of TN
- Germantown
- Wolf River Conservancy



WOLF RIVER GREENWAY



A photograph of two cyclists riding away from the camera on a dirt trail through a forest. The trail is covered in fallen leaves and is flanked by tall, slender trees with green foliage. Sunlight filters through the canopy, creating dappled light on the ground. The cyclist in the foreground is wearing a light-colored shirt and dark shorts, while the one further ahead is in darker clothing. The overall scene is peaceful and scenic.

A 36 MILE TRAIL SYSTEM

ECONOMIC BENEFIT REPORT



TOTAL BENEFITS

1,126,000 MORE BIKE TRIPS PER YEAR

4,650,000 MORE WALK TRIPS PER YEAR

\$1,467,000 IN HEALTH BENEFITS PER YEAR

\$2,842,000 IN TRANSPORTATION BENEFITS PER YEAR

\$7,185,000 IN ENVIRONMENTAL BENEFITS PER YEAR

\$2,920,000 IN ECONOMIC BENEFITS PER YEAR

over

\$14 MILLION

IN TOTAL BENEFITS PER YEAR

AMBITIOUS PLAN

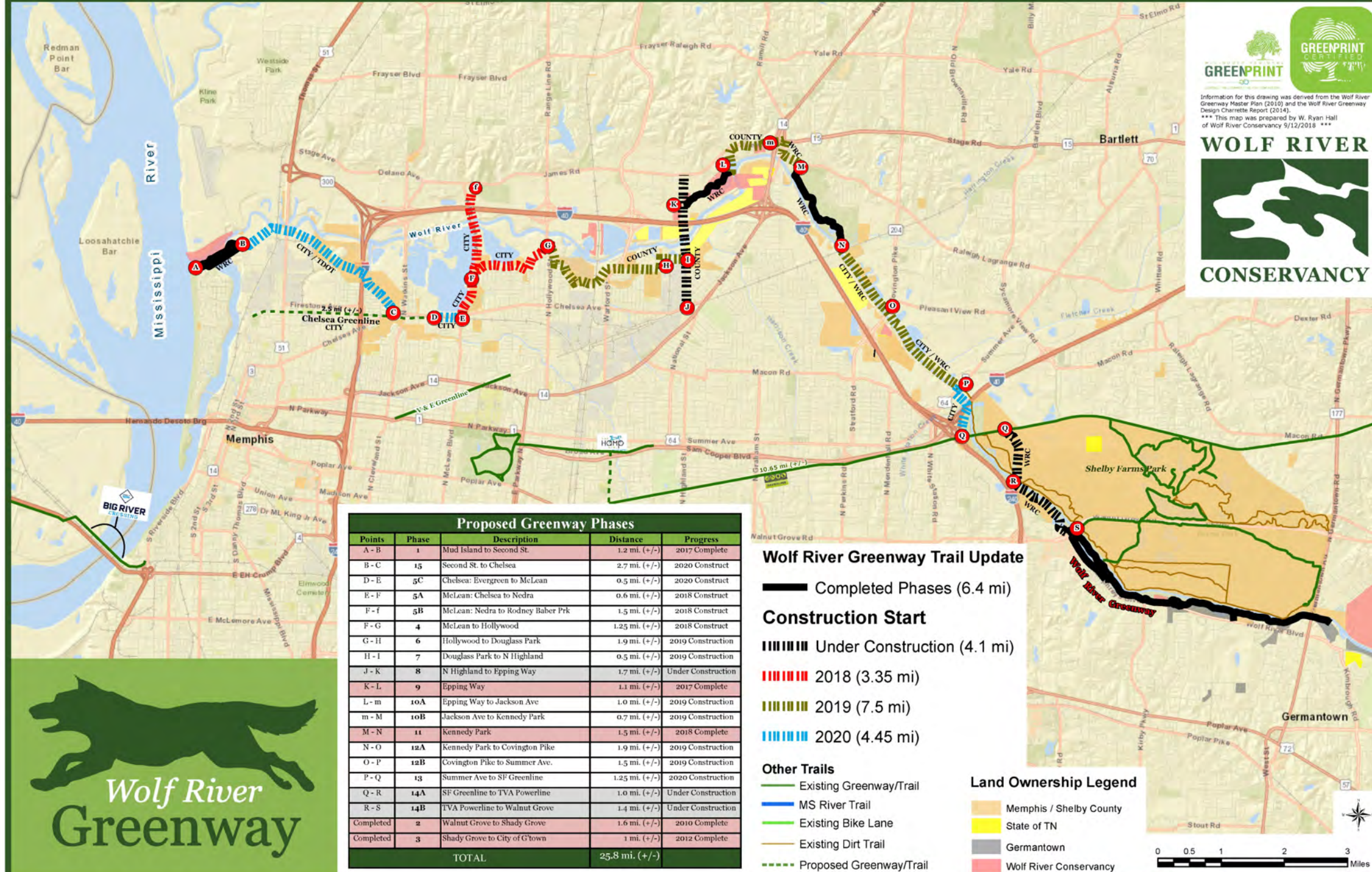
CONCEPT TO OPENING IN 5 YEARS

- **Challenge Grant (Private)**
- **Other Foundations Supporting**
- **Private Donations/Fundraising**
- **City/County Partnership**





Information for this drawing was derived from the Wolf River Greenway Master Plan (2010) and the Wolf River Greenway Design Charrette Report (2014).
*** This map was prepared by W. Ryan Hall of Wolf River Conservancy 5/12/2018 ***



Proposed Greenway Phases				
Points	Phase	Description	Distance	Progress
A - B	1	Mud Island to Second St.	1.2 mi. (+/-)	2017 Complete
B - C	15	Second St. to Chelsea	2.7 mi. (+/-)	2020 Construct
D - E	5C	Chelsea: Evergreen to McLean	0.5 mi. (+/-)	2020 Construct
E - F	5A	McLean: Chelsea to Nedra	0.6 mi. (+/-)	2018 Construct
F - f	5B	McLean: Nedra to Rodney Baber Prk	1.5 mi. (+/-)	2018 Construct
F - G	4	McLean to Hollywood	1.25 mi. (+/-)	2018 Construct
G - H	6	Hollywood to Douglass Park	1.9 mi. (+/-)	2019 Construction
H - I	7	Douglass Park to N Highland	0.5 mi. (+/-)	2019 Construction
J - K	8	N Highland to Epping Way	1.7 mi. (+/-)	Under Construction
K - L	9	Epping Way	1.1 mi. (+/-)	2017 Complete
L - m	10A	Epping Way to Jackson Ave	1.0 mi. (+/-)	2019 Construction
m - M	10B	Jackson Ave to Kennedy Park	0.7 mi. (+/-)	2019 Construction
M - N	11	Kennedy Park	1.5 mi. (+/-)	2018 Complete
N - O	12A	Kennedy Park to Covington Pike	1.9 mi. (+/-)	2019 Construction
O - P	12B	Covington Pike to Summer Ave.	1.5 mi. (+/-)	2019 Construction
P - Q	13	Summer Ave to SF Greenline	1.25 mi. (+/-)	2020 Construction
Q - R	14A	SF Greenline to TVA Powerline	1.0 mi. (+/-)	Under Construction
R - S	14B	TVA Powerline to Walnut Grove	1.4 mi. (+/-)	Under Construction
Completed	2	Walnut Grove to Shady Grove	1.6 mi. (+/-)	2010 Complete
Completed	3	Shady Grove to City of G'town	1 mi. (+/-)	2012 Complete
TOTAL			25.8 mi. (+/-)	

Wolf River Greenway Trail Update

- Completed Phases (6.4 mi)
- Construction Start
- Under Construction (4.1 mi)
- 2018 (3.35 mi)
- 2019 (7.5 mi)
- 2020 (4.45 mi)

Other Trails

- Existing Greenway/Trail
- MS River Trail
- Existing Bike Lane
- Existing Dirt Trail
- Proposed Greenway/Trail

Land Ownership Legend

- Memphis / Shelby County
- State of TN
- Germantown
- Wolf River Conservancy

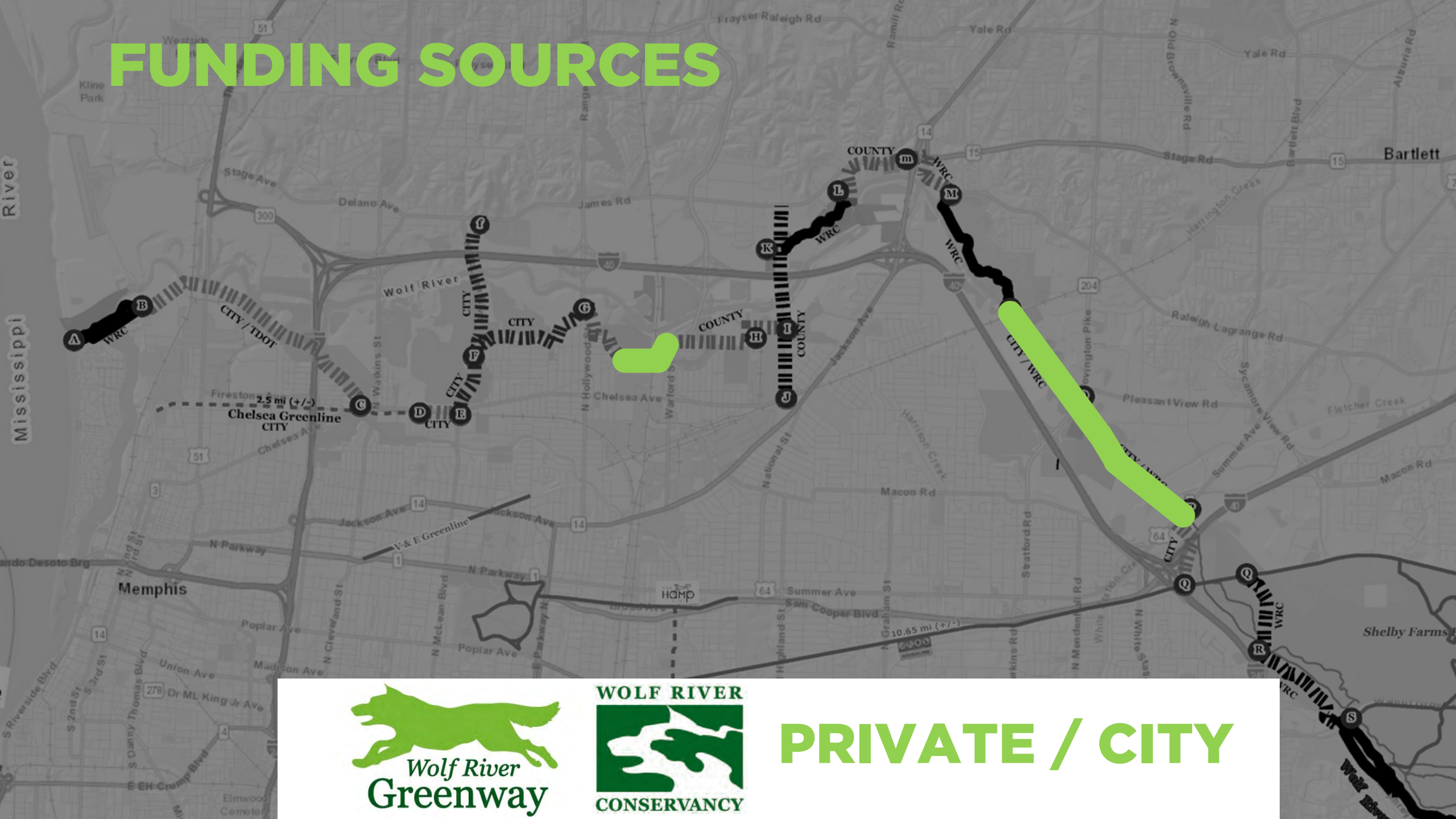


FUNDING SOURCES



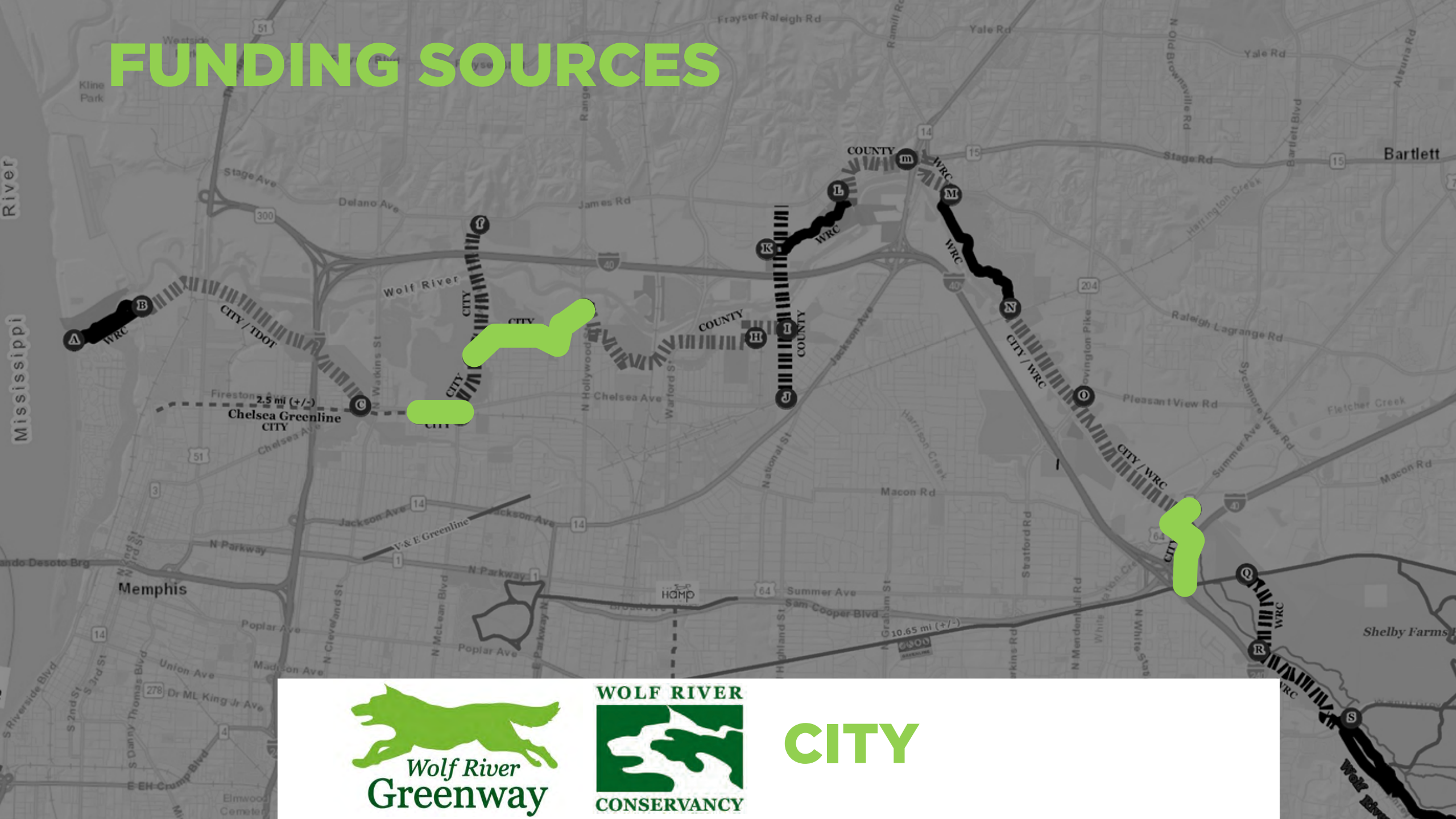
PRIVATE

FUNDING SOURCES

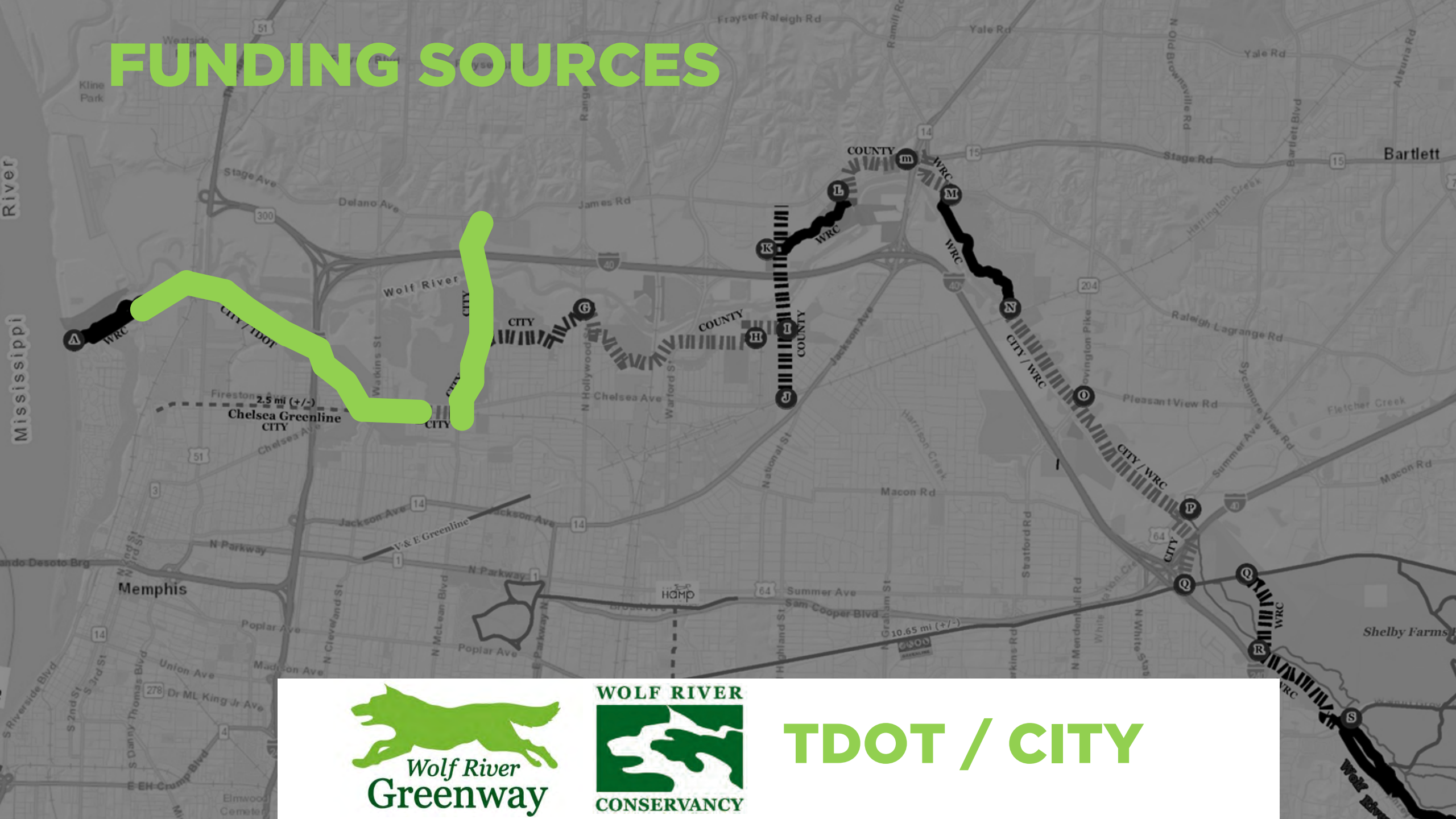


PRIVATE / CITY

FUNDING SOURCES

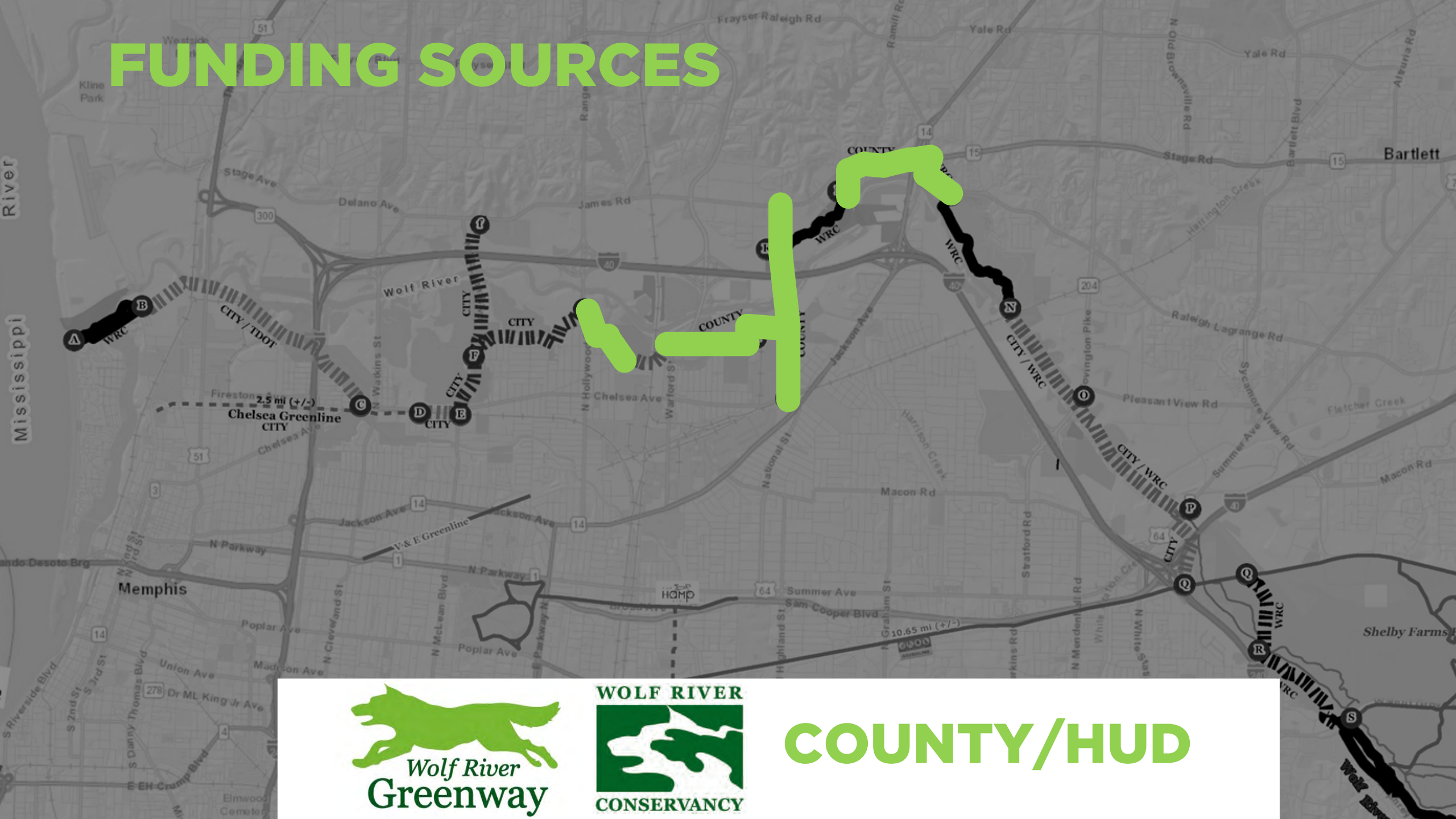


FUNDING SOURCES



TDOT / CITY

FUNDING SOURCES



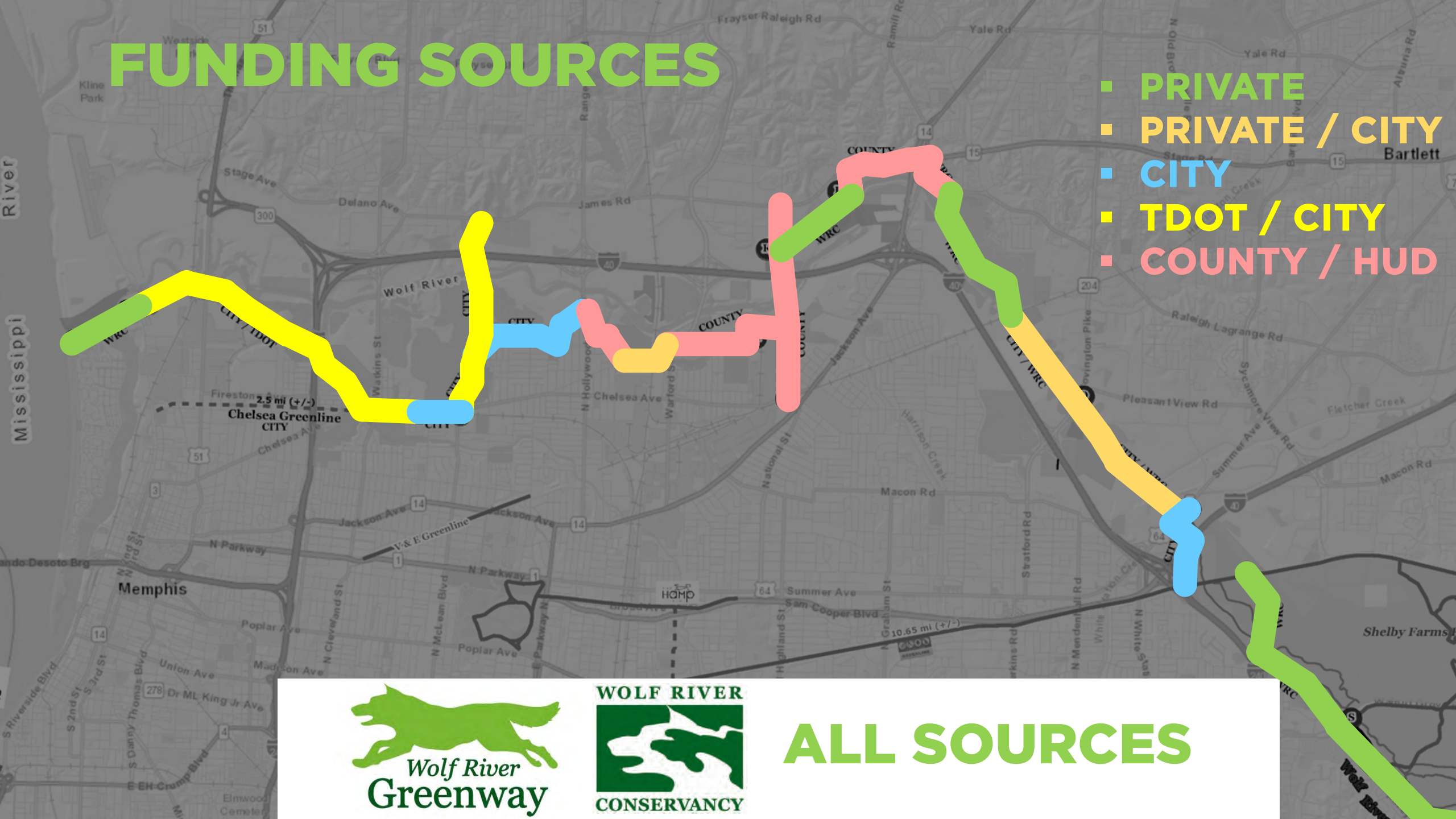
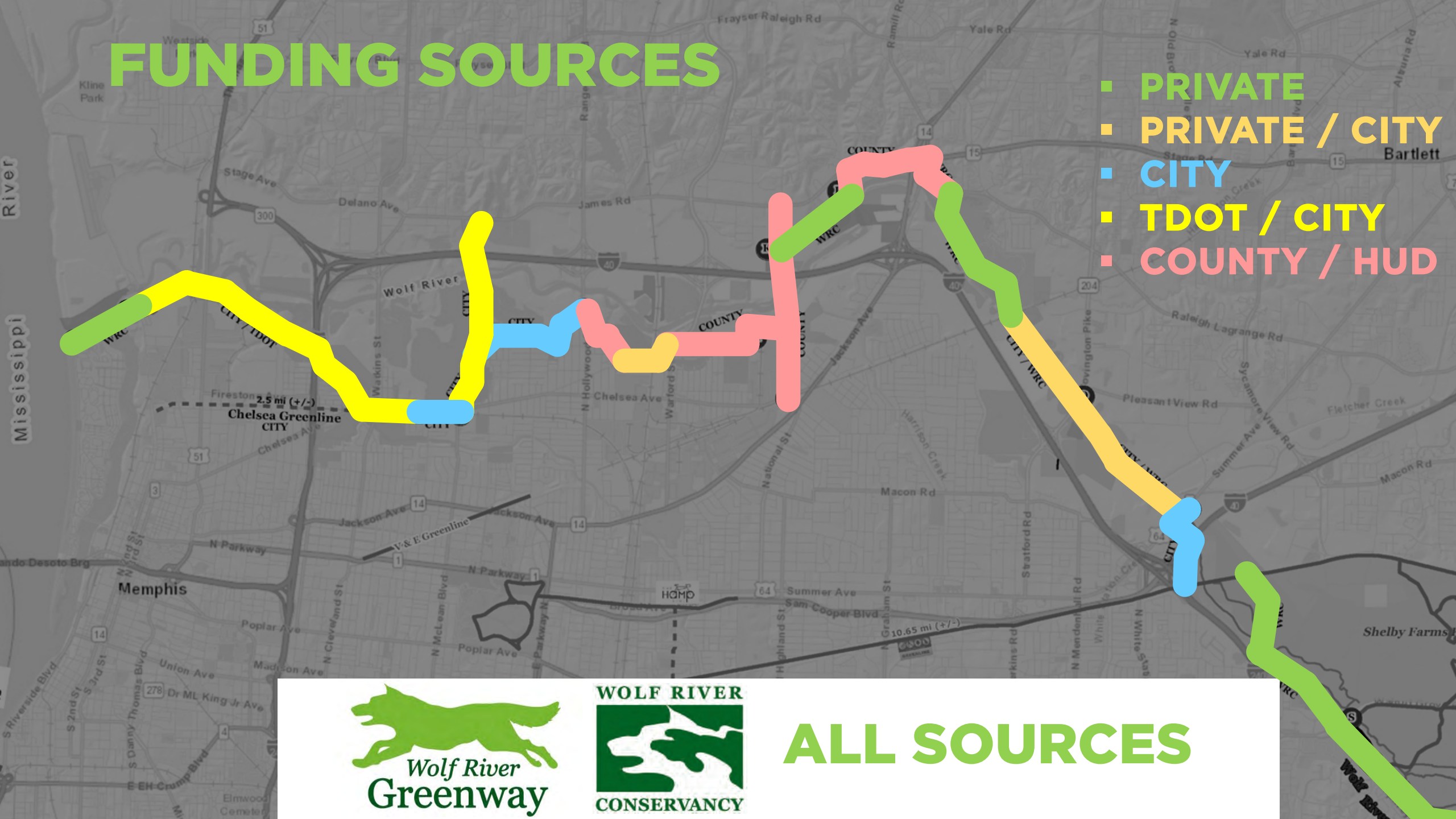
COUNTY/HUD

FUNDING SOURCES

- PRIVATE
- PRIVATE / CITY
- CITY
- TDOT / CITY
- COUNTY / HUD

ALL SOURCES

-
- FUNDING SOURCES**
- PRIVATE
 - PRIVATE / CITY
 - CITY
 - TDOT / CITY
 - COUNTY / HUD
- 10.65 mi (+/-)
- ALL SOURCES**
- Wolf River Greenway**
- WOLF RIVER CONSERVANCY**



FUNDING SOURCES

- PRIVATE
- PRIVATE / CITY
- CITY
- TDOT / CITY
- COUNTY / HUD

ALL SOURCES

The map displays the Wolf River Greenway route with segments color-coded by funding source. The route starts near the Mississippi River, passes through Chelsea City, and continues south towards Memphis. Key landmarks include the Wolf River, Chelsea Greenline, and V & E Greenline. The map also shows major roads like I-40, I-55, and US-51.

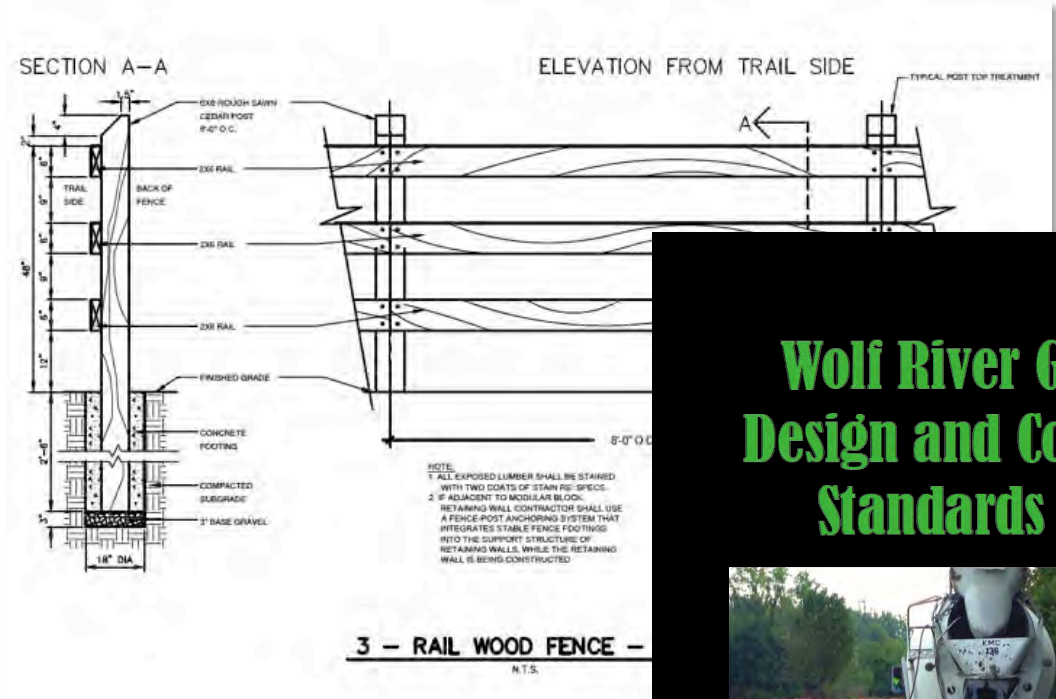
WOLF RIVER GREENWAY CHARRETTE



ROUTE AND ALIGNMENT GUIDELINES

- **Experiential**
- **Feasibility**
- **Ease of Securing R.OW**
- **Environmental Compatibility**
- **Safety and Security**
- **User Remoteness vs. Integration**
- **Good Neighbor**
- **Cost of Construction/Operation**
- **Long Term Sustainability**
- **Linkage**
- **WOW! Factor**

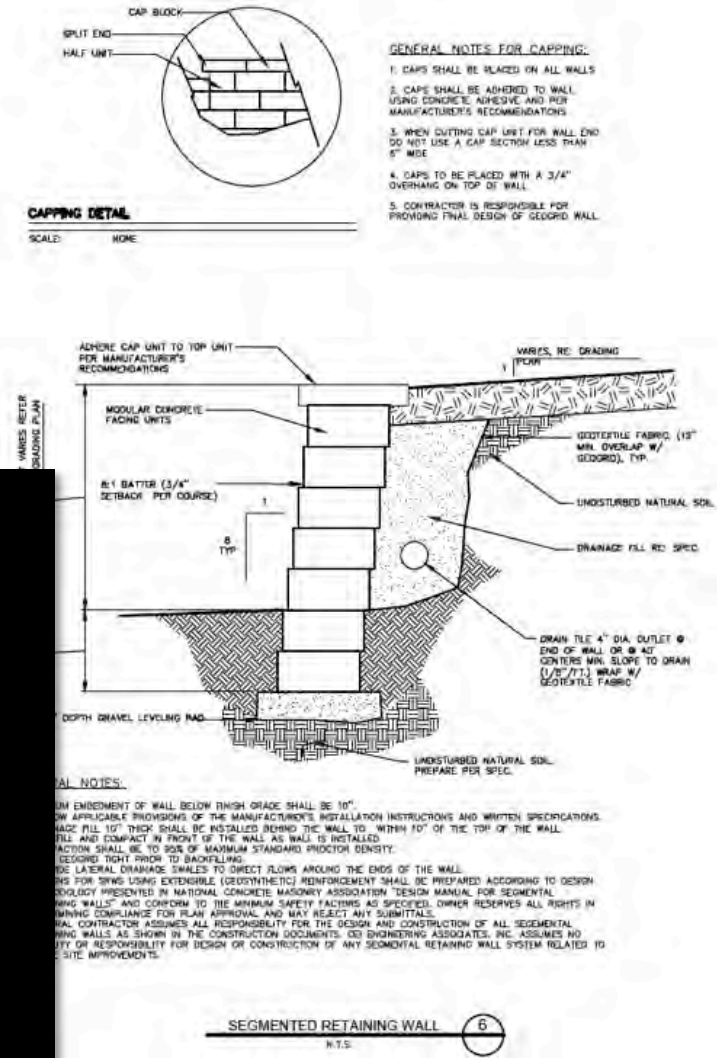
DESIGN MANUAL



Wolf River Greenway Design and Construction Standards Manual



July 2015 Draft



OPERATION & MANAGEMENT PLAN

FIRST DRAFT

March 15, 2015

WOLF RIVER GREENWAY GOVERNANCE, OPERATIONS and MANAGEMENT PLAN



Submitted to:
City of Memphis & The Wolf River Conservancy

Submitted by:
Charles A. Flink, FASLA
Alta Planning + Design

MEMORANDUM OF UNDERSTANDING FOR THE MEMPHIS WOLF RIVER GREENWAY AND TRAIL PROJECT BETWEEN CITY OF MEMPHIS DIVISION OF PARKS AND NEIGHBORHOODS, and WOLF RIVER CONSERVANCY, INC.

- I. **PURPOSE.** The purpose of this Memorandum of Understanding (MOU) between the City of Memphis, through its Division of Parks and Neighborhoods (hereinafter "the City") and the Wolf River Conservancy, Inc. (hereinafter "WRC, referred to collectively as the Memphis Greenway Partnership Group (hereinafter "the Partnership"), is to establish a framework for cooperation upon which the Wolf River Greenway trail system, including any amenities, may be planned, funded, developed and maintained (hereinafter the "Project") as outlined in the Memphis Wolf River Greenway and Trail Master Plan approved by the Memphis City Council in April 2007.

This MOU supersedes the prior MOU between the parties dated December 26, 2009 also referred to as City Contract #26388.

- II. **PARTNER BACKGROUND.** The identities and interests of the Partners are as follows:

- A. City of Memphis, Division of Parks and Neighborhoods is responsible for the development, operation and maintenance of the City's park and recreation facilities.
- B. WRC is a 501(c) (3) Tennessee non-profit corporation and land trust committed to the conservation and enhancement of the Wolf River watershed as a sustainable natural resource.

- III. **STATEMENT OF MUTUAL INTERESTS AND BENEFITS.** The parties enter into this MOU with the goal of developing a public trail for the use, benefit and to promote the safety, health and general welfare of the citizens of Memphis and Shelby County.

Construction of this Project, in the heart of the City and Shelby County, will provide the following benefits:

- A. During a time of increased competition for relocating or expanding businesses, it allows Memphis to join the ranks of progressive communities in attracting forward-thinking global businesses whose leaders value the alternative-transit and recreational opportunities a trail provides for their workers;
- B. It allows us to connect the diverse neighborhoods in our community; and
- C. It provides a convenient and safe opportunity for our citizens to exercise,

CONSTRUCTION DOCUMENTS

INDEX OF SHEETS

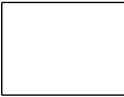
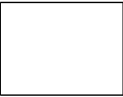
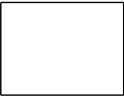
1	COVER SHEET
2	GENERAL NOTES
3-8	DEMOLITION, CLEARING AND GRUBBING PLANS
9-11	EXISTING CONDITIONS AND LAYOUT PLANS
12-13	DETAIL LAYOUT PLANS
14-22	PLAN AND PROFILE
23	DRAINAGE MAP
24-28	GRADING AND DRAINAGE PLANS
29-34	EROSION CONTROL PLANS - STAGE 1
35-40	EROSION CONTROL PLANS - STAGE 2
41-46	EROSION CONTROL PLANS - STAGE 3
47-49	EROSION CONTROL DETAILS
50	SIGNING AND PAVEMENT MARKING PLAN
51	85' PEDESTRIAN BRIDGE
52	30' PEDESTRIAN BRIDGE
53-56	BRIDGE DETAILS
57	42" CULVERT CROSSING
58	TRAFFIC CONTROL PLAN NOTES
59	TRAFFIC CONTROL PLAN
60-66	CONSTRUCTION DETAILS
67-92	CROSS SECTIONS

BID SET No. _____



THE WOLF RIVER CONSERVANCY and THE CITY OF MEMPHIS

Jim Strickland - Mayor

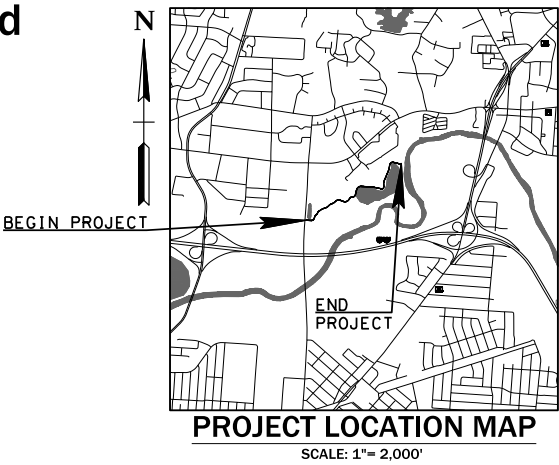


CONSTRUCTION DRAWINGS OF PROPOSED WOLF RIVER GREENWAY TRAIL

CITY PROJECT NUMBER: 15P198B.09

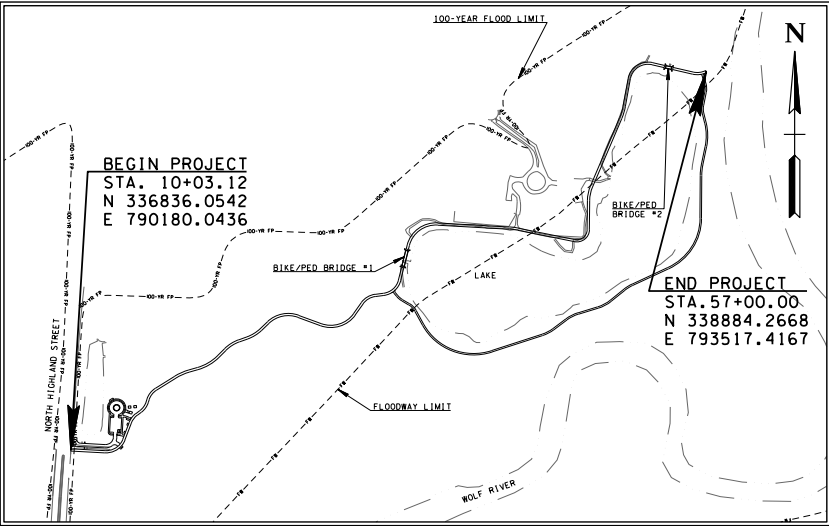
MARCH 7, 2016

WOLF RIVER GREENWAY, PHASE 9 EPPING WAY



Project Site Map

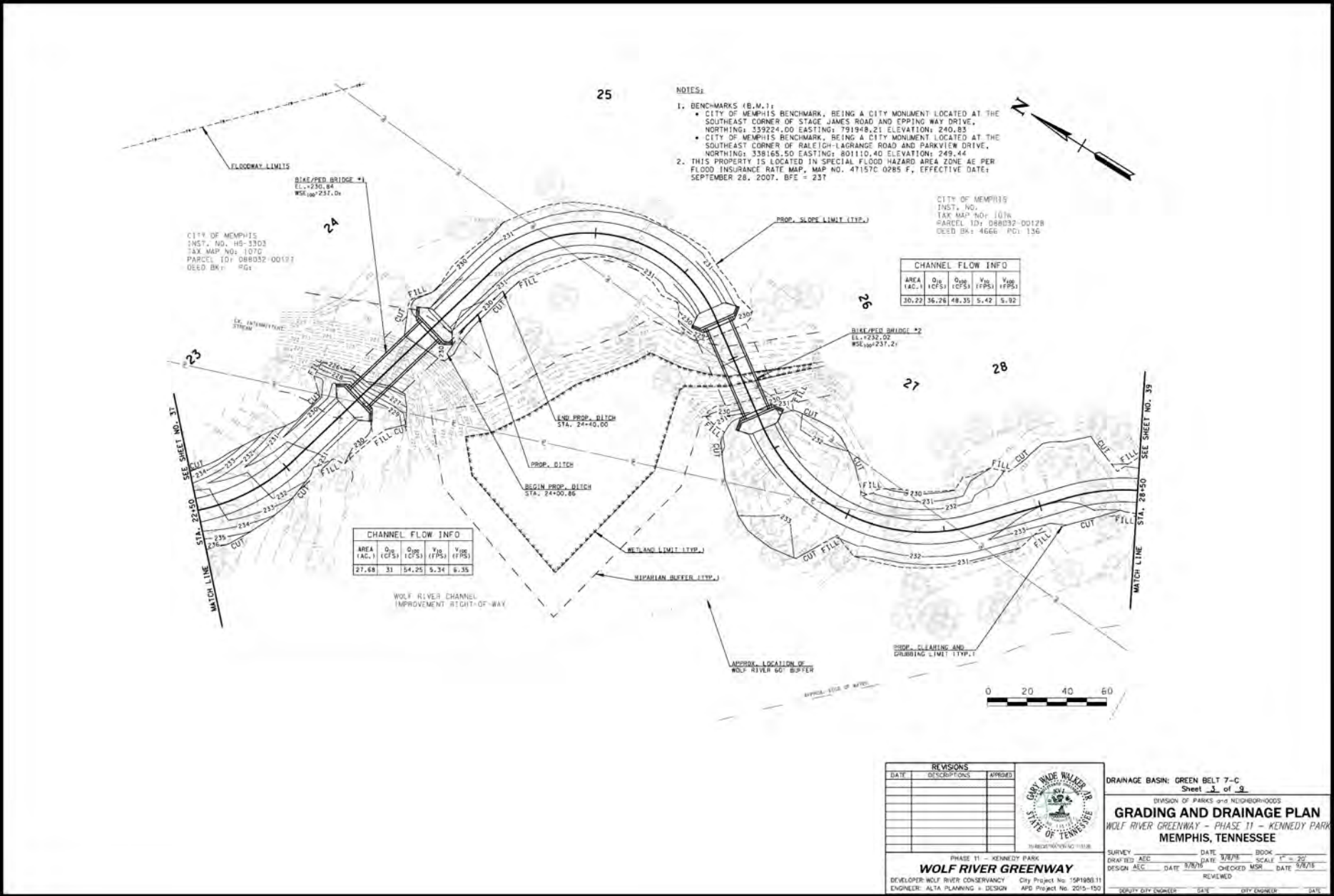
SCALE: 1" = 300'



LEGEND

EXISTING PLAN	PROPOSED PLAN
RIGHT OF WAY LINE	
CURB & GUTTER, NO. 6-72 INLET	
NO. 11 INLET	
CULVERT	
DRAIN PIPE	
SEWER PIPE	
DRAIN MANHOLE	
SEWER MANHOLE	
ELECTRICAL MANHOLE	
TELEPHONE MANHOLE	
WATER METER	
GAS OR WATER VALVE	
POWER POLE	
TELEPHONE OR TELEGRAPH POLE	
LIGHT POLE	
FIRE PLUG	
GUY POLE	
TOP OF CUT	
TOP OF FILL	
OVERHEAD ELECTRICAL	
UNDERGROUND ELECTRICAL	
UNDERGROUND WATER	
UNDERGROUND GAS	
SHRUB	
TREE	
FENCE LINE	
GUARDRAIL	
TREELINE	
FLOODWAY LIMITS	
WETLAND LIMITS	
100-YEAR FLOOD LIMITS	
EDGE OF WATER	
60" WATER BUFFER	

CONSTRUCTION DOCUMENTS



GROUND BREAKING CEREMONY

September 25, 2015



CONSTRUCTION

A photograph of a construction site for a bridge or walkway. In the foreground, a worker in a high-visibility yellow shirt and hard hat stands on a concrete base with rebar protruding. Behind him, another worker is visible on the bridge deck. The bridge has a metal railing and is surrounded by a dense forest. A blue excavator is visible in the background on the right. The word "CONSTRUCTION" is overlaid in large white letters.

TAKEAWAYS

An aerial photograph of a park. A paved path winds through a landscape that includes a large, cleared, yellowish-green field on the left, a dense forest of green trees on the right, and a small stream or pond at the bottom right. Several people are walking along the path. The word 'TAKEAWAYS' is written in large, white, bold, sans-serif capital letters at the top center of the image.

1. CLEARING

2. CHANGES / UNKNOWNNS

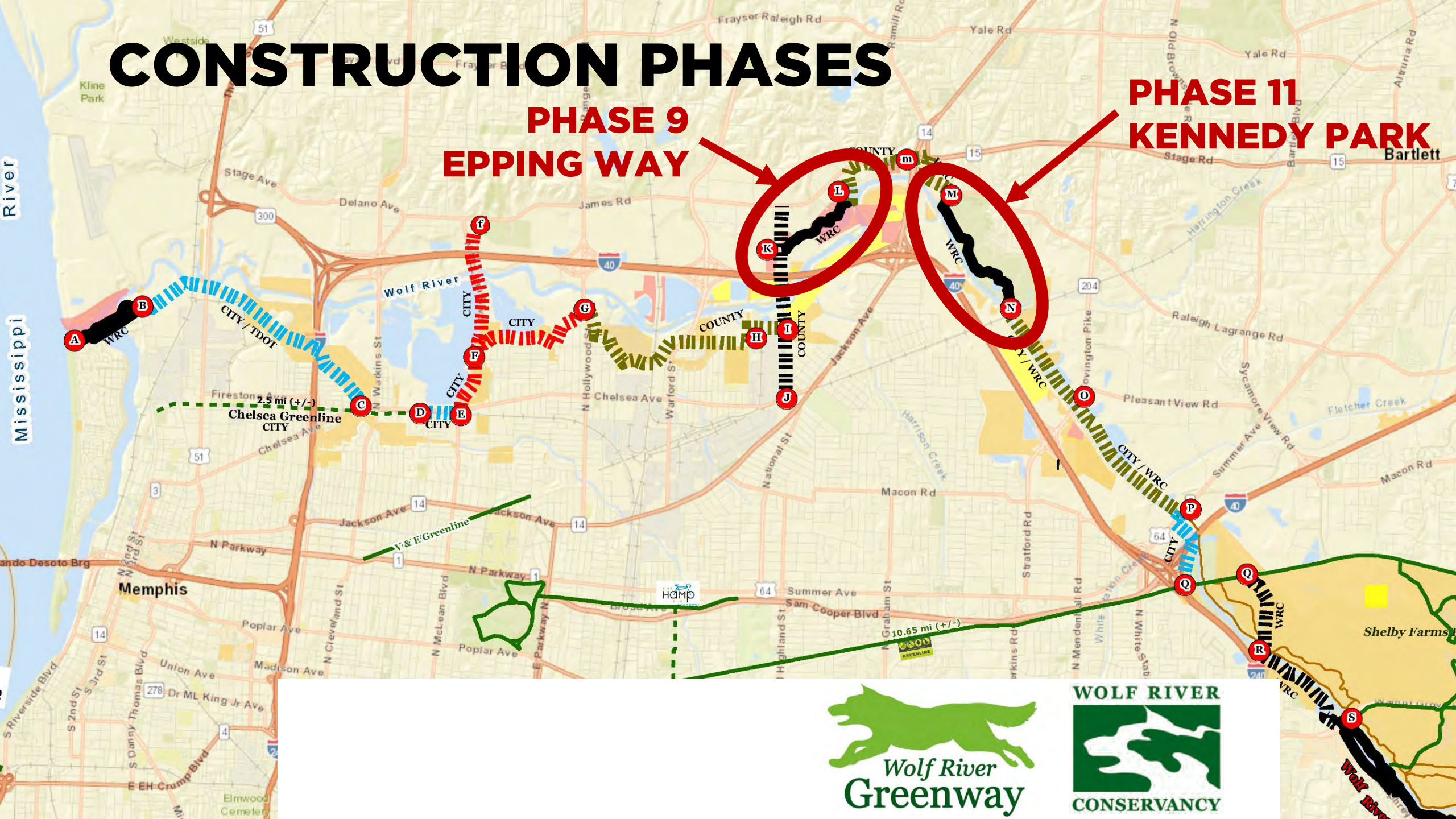
3. CONTRACTOR EXPERTISE

4. QUALITY CONTROL

CONSTRUCTION PHASES

**PHASE 9
EPPING WAY**

**PHASE 11
KENNEDY PARK**



PHASE 9 – EPPING WAY

COMPLETED DECEMBER, 2017

- 1. 12' wide asphalt trail with 1' gravel shoulders.**
- 2. Two pedestrian bridges (30' & 85' long).**
- 3. Two culvert crossings (18" and 30" diameter pipes).**
- 4. Access from Highland Street and Epping Way Drive cul-de-sac.**

























PHASE 11 – KENNEDY PARK

COMPLETED SEPTEMBER, 2018

- 1. 12' wide asphalt trail with 1' gravel shoulders.**
- 2. Six pedestrian bridges (4 x 50', 109' and 135' long).**
- 3. Three culvert crossings (18", 30", and 36" dia. pipes).**
- 4. Access from Kennedy Park and Raleigh Lagrange Road.**





































THANK YOU!

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2019
INTERNATIONAL
TRAILS
SYMPOSIUM
and
TRAINING INSTITUTE



SYRACUSE, NEW YORK
APRIL 28-MAY 1