

We are not outside the ecology for
which we **plan**—we are always and
inevitably a part of it. Herein lies the
charm and terror of ecology.

Gregory Bateson, Steps to an Ecology of Mind. (1972)



A topographic map of Nashville, Tennessee, showing the city and surrounding areas. The map is overlaid with a semi-transparent dark green layer. The city of Nashville is prominently labeled in the center. Surrounding areas include Davidson, Hermitage, and Donelson. The map shows various geographical features like hills, rivers, and roads.

urban:

- from Latin “urbs” → city or town

ökologie (German)

- from Greek “oikos” and “logos” → the study of the dwelling place (Ernst Haeckel, 1866)
- ecology: the study of organisms in relation to their environments



Urban Ecological Framework

MHZC | 19th November 2025

Harriett Brooks

background

- loss of *character* and *sense of place* due to development
- incongruity among what our existing policy & zoning tools are trying to accomplish, the *values* they embody & the development that is occurring on the ground
- desire for *authenticity* & to better understand *community identity*
- sense that *authenticity* & *identity* are intrinsically tied to the cultural landscape
- Need to more equitably balance planning investment across the county, especially in rural areas



theoretical foundation

1. **Psychology: Place Attachment**
2. Cultural Landscape studies
3. Ecological Urbanism
4. Projective Ecologies

“It is *place*—permanent position in both the social and topographical sense—that gives us our *identity* .”
(J . B . J a c k s o n)

“City form influences our daily lives. *City form concretizes our values and reflects them back to us.* City form can make us a more resilient society and more fulfilled individuals.”
(Randy Hester)



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1. Psychology: Place Attachment
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“Cultural landscapes are those where human interaction with natural systems has, over a long period, formed a distinctive landscape. These interactions arise from, and cause, cultural values to develop.”

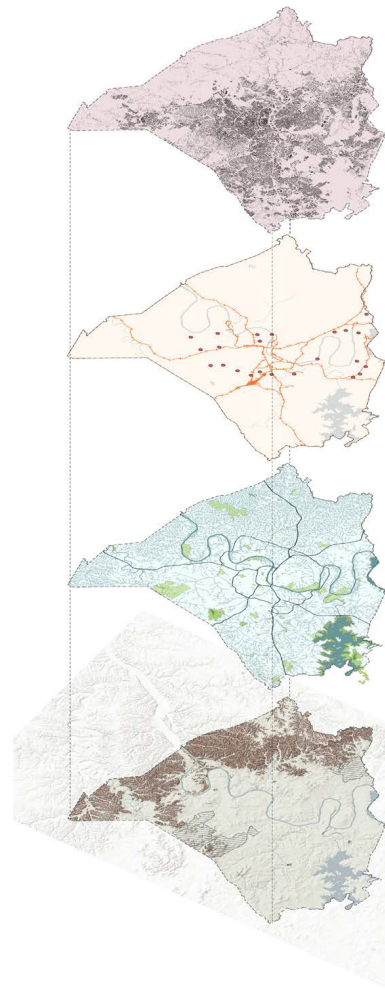
(UNESCO)

"Cultural landscapes provide a sense of place and identity; they **map our relationship with the land over time.**"

(TCLF)



cultural landscape framework

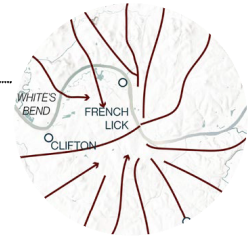


development
land use / density / society
/ economy / culture



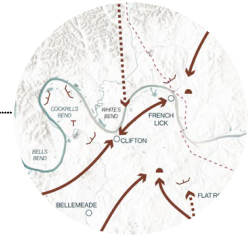
Our current cultural landscape reflects a continuous and evolving negotiation between the land and natural systems and how human inhabitants have molded it to fit their needs and uses.

patterns
settlement / territory /
community formation /
cultivation / migration /
transportation



Nashville developed on the high and dry side of the Cumberland River at French Lick. Native American trails outward from this original "hub" evolved into our pike system, forming the backbone of the city's "hub and spoke" development pattern.

resources
fresh water / minerals /
forest types / ecozones



Early settlements were based on access to resources, such as hardwood forests (acorns), chert (arrows), fresh water, minerals (salt), and game (bison and deer).

land
geology / soils /
topography



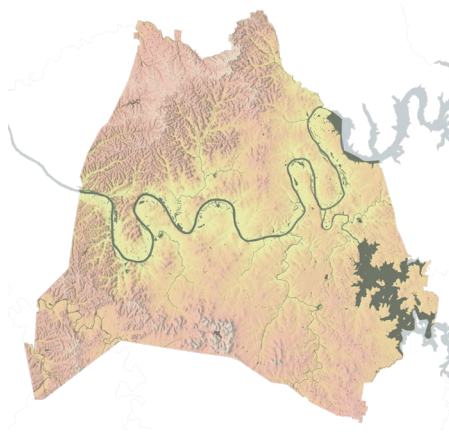
Nashville is situated along the Northwestern Rim of the Cumberland Basin, comprised of temperate hardwood forests and shallow limestone soils, with the Cumberland River and its tributaries running through it.

INITIAL RESEARCH

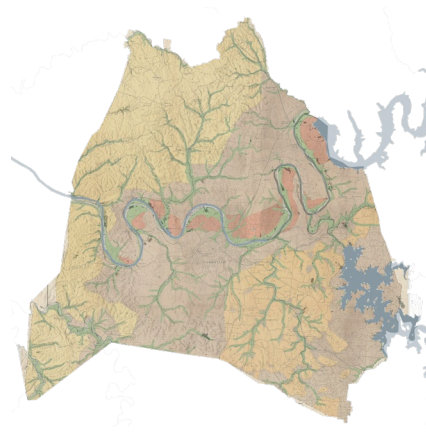
foundation in natural systems



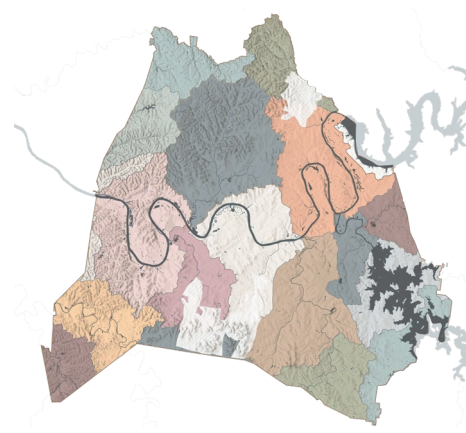
topography



elevation



soils & geology



watersheds & hydrology

prompt

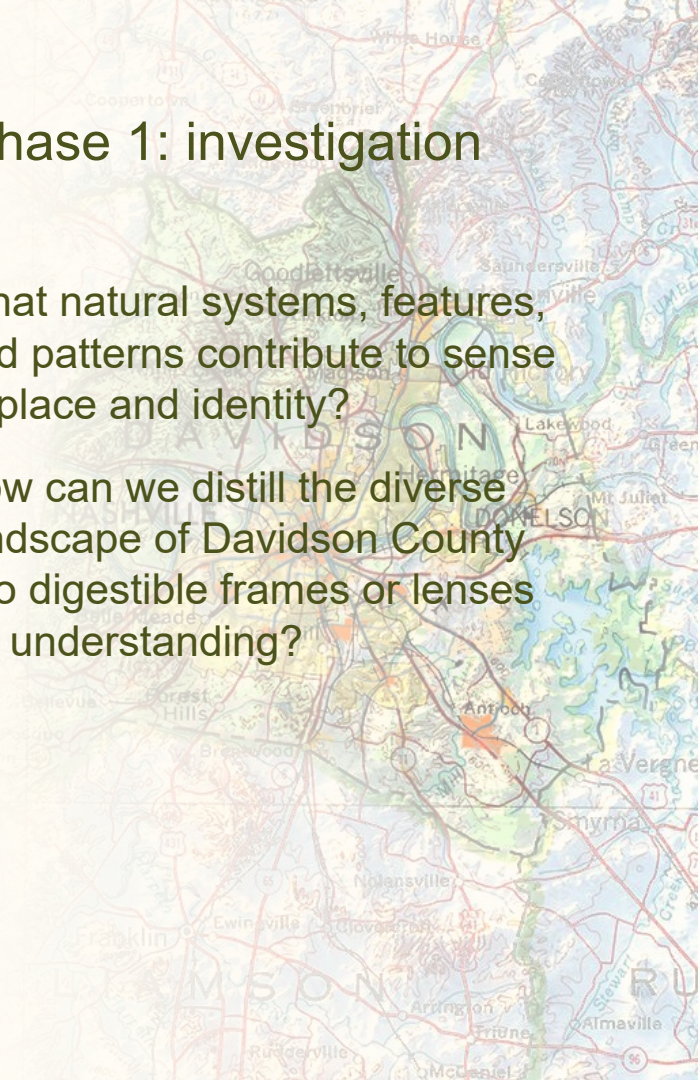


phase 1: investigation

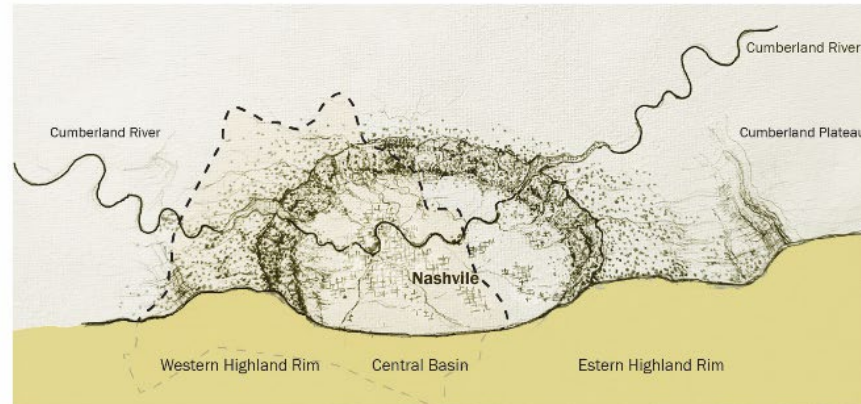
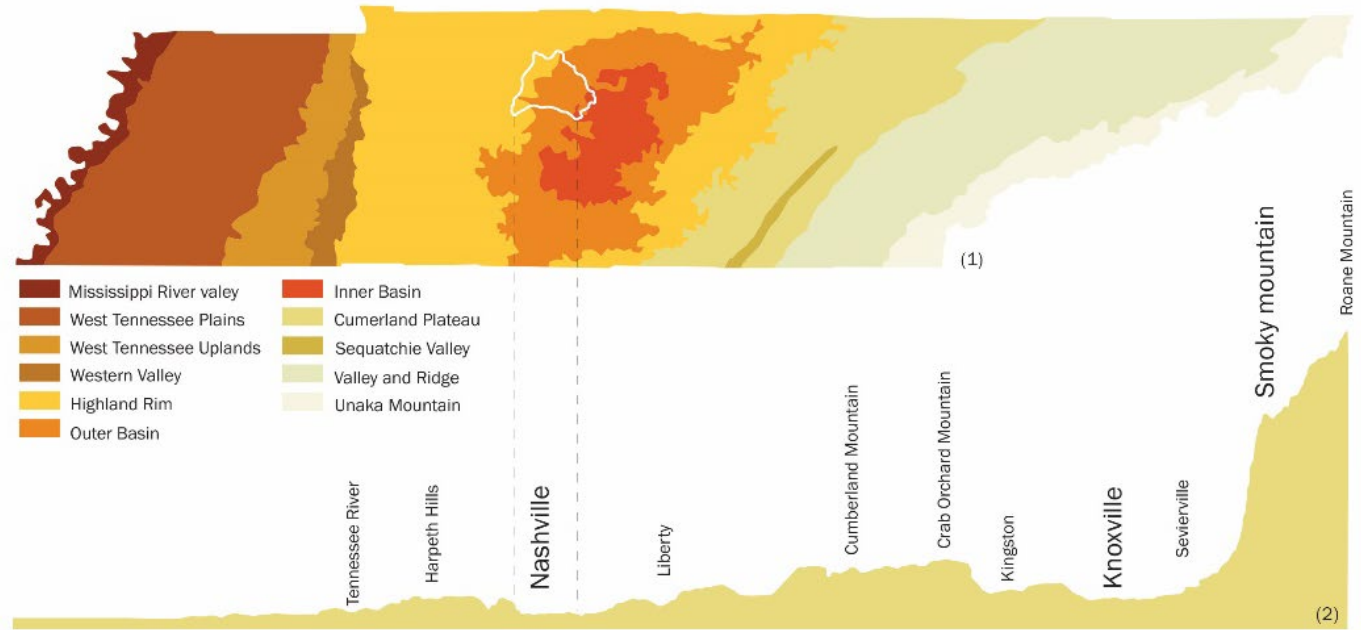
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- incongruity among what our existing policy & zoning tools are trying to accomplish, the *values* they embody & the development that is occurring on the ground

What natural systems, features, and patterns contribute to sense of place and identity?

How can we distill the diverse landscape of Davidson County into digestible frames or lenses for understanding?



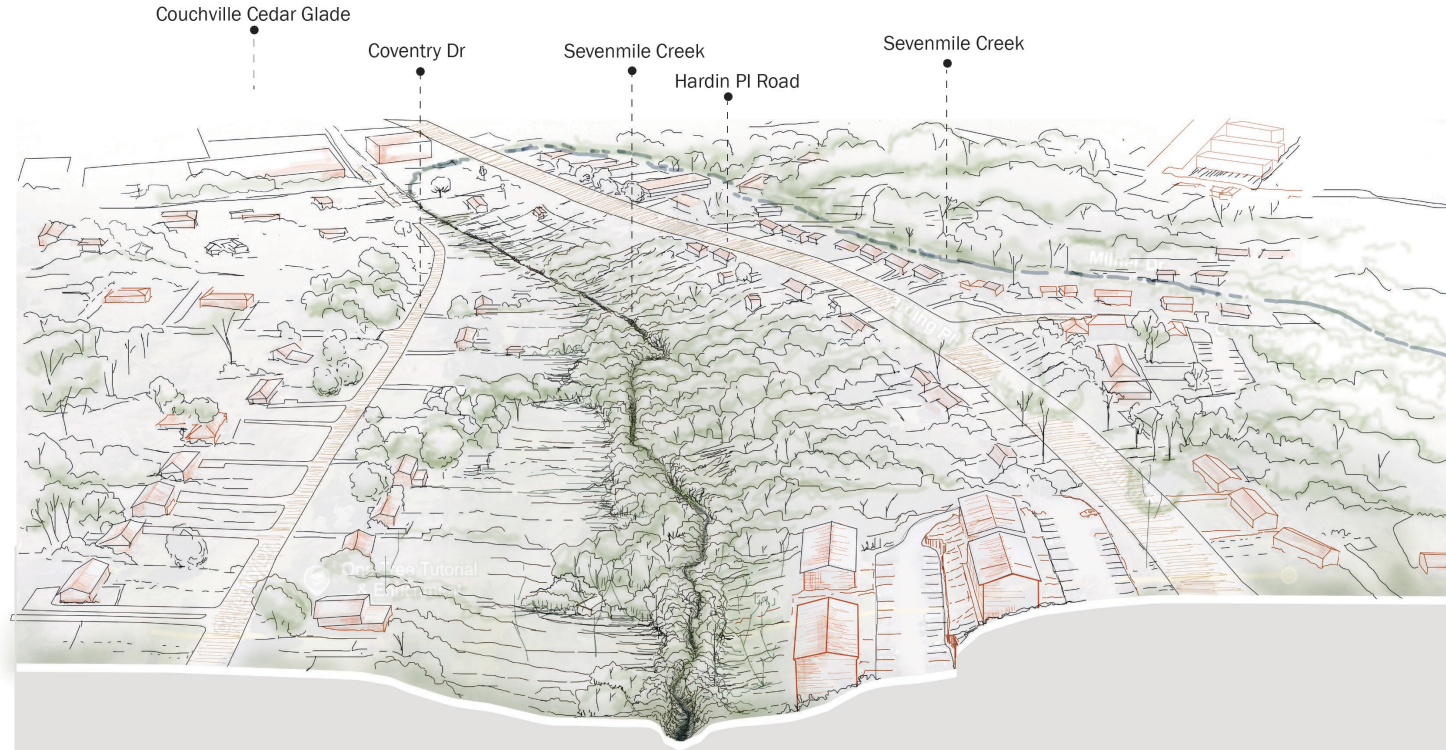
situate our local ecology



1_ Recrated from "Tennessee's Level IV Ecoregions Map"; Griffith, G.E.; Omernik, J.M.; and Azevedo, S.H. "Ecoregions of Tennessee (Poster)". U.S. Geological Survey, Reston, VA (1998) Web.
https://store.usgs.gov/assets/MOD/StoreFiles/Ecoregion/21632_tn_front.pdf

2_ Graphic redrawn (Elevation only) from Geological cross-section of the state of Tennessee. from two of the most eastern extremities of the state: Roane Mountain by Carter Co. and Smoky Mountain in Cocke Co., to Randolph on the Mississippi, the most western extremity. (1839).
<https://teva.contentdm.oclc.org/digital/collection/p15138coll23/id/8844>.

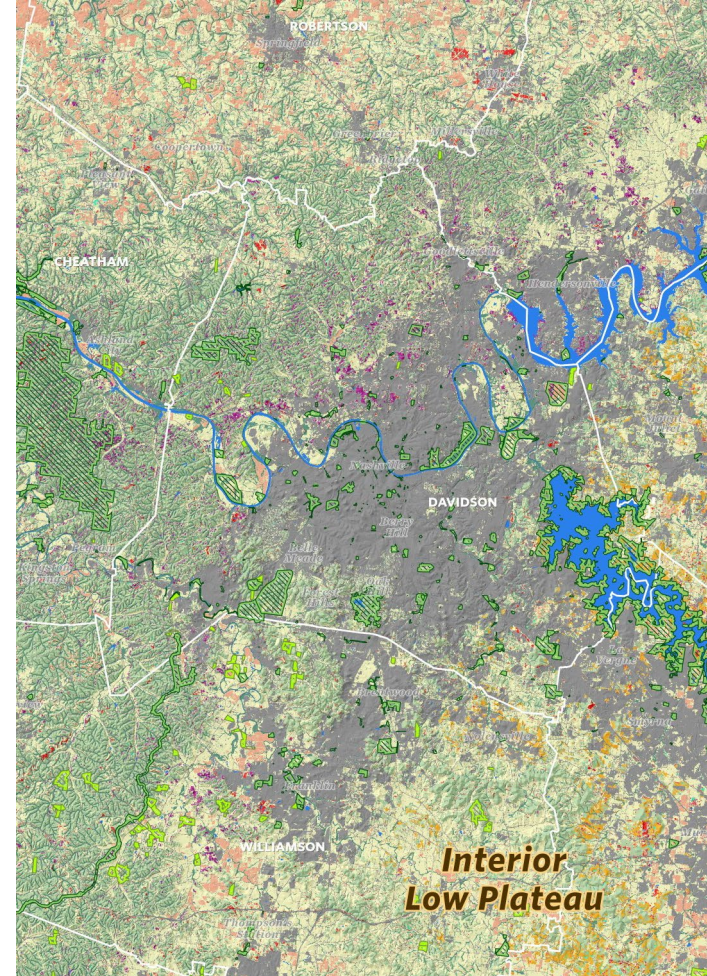
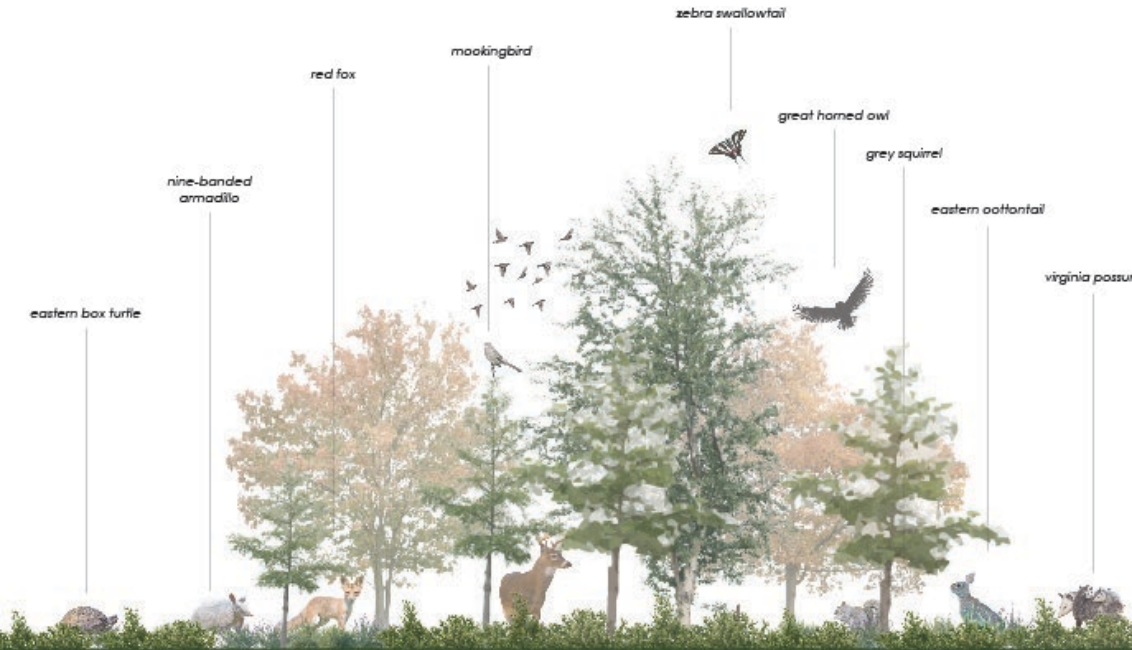
within
functional
systems



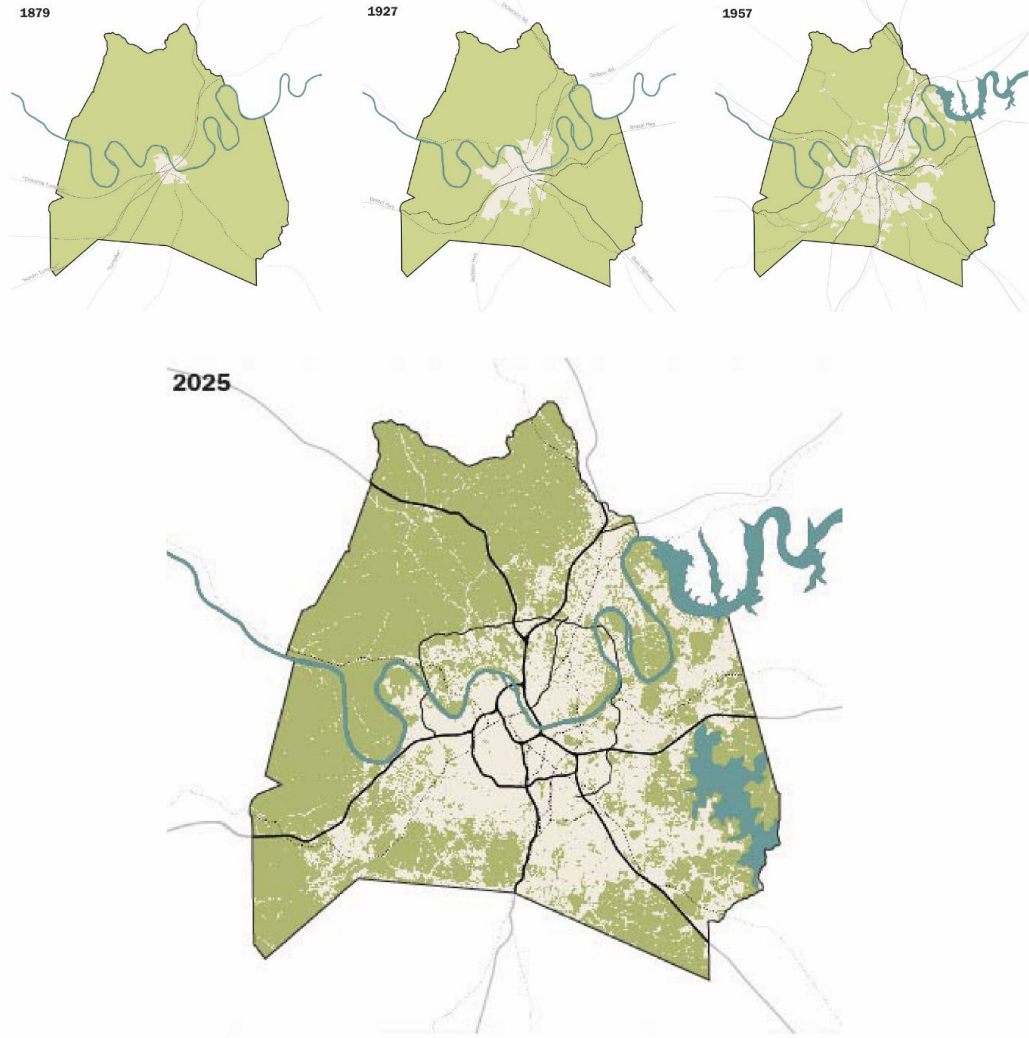
Intermittent Stream // Sevenmile creek

Drawn by Muhammad Shadman Mahmood

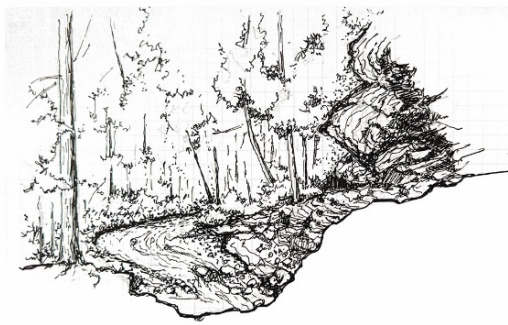
across scales



TN Landcover and Ecozones, DRAFT map for 2025
State Wildlife Action Plan, TN Nature Conservancy

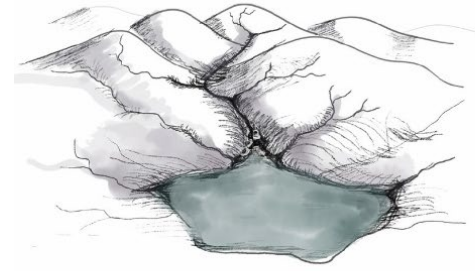


and over time.

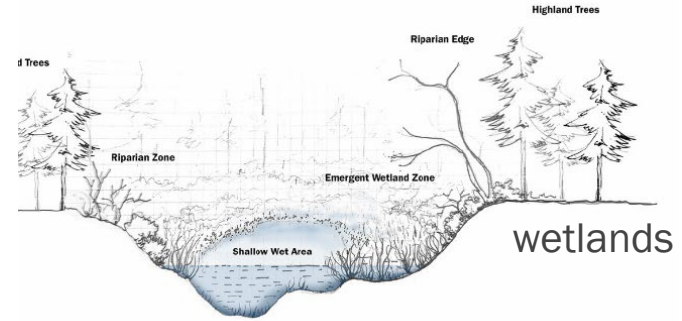


muddy rivers &
shallow, rocky streams

document the foundational elements



watersheds



wetlands



oak-hickory
forests

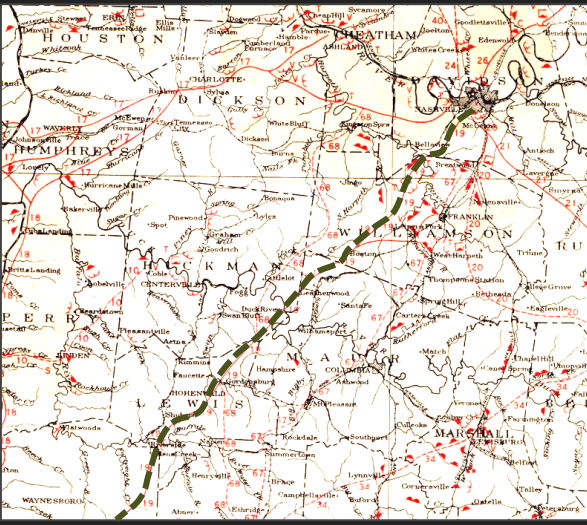


hills & ridgelines

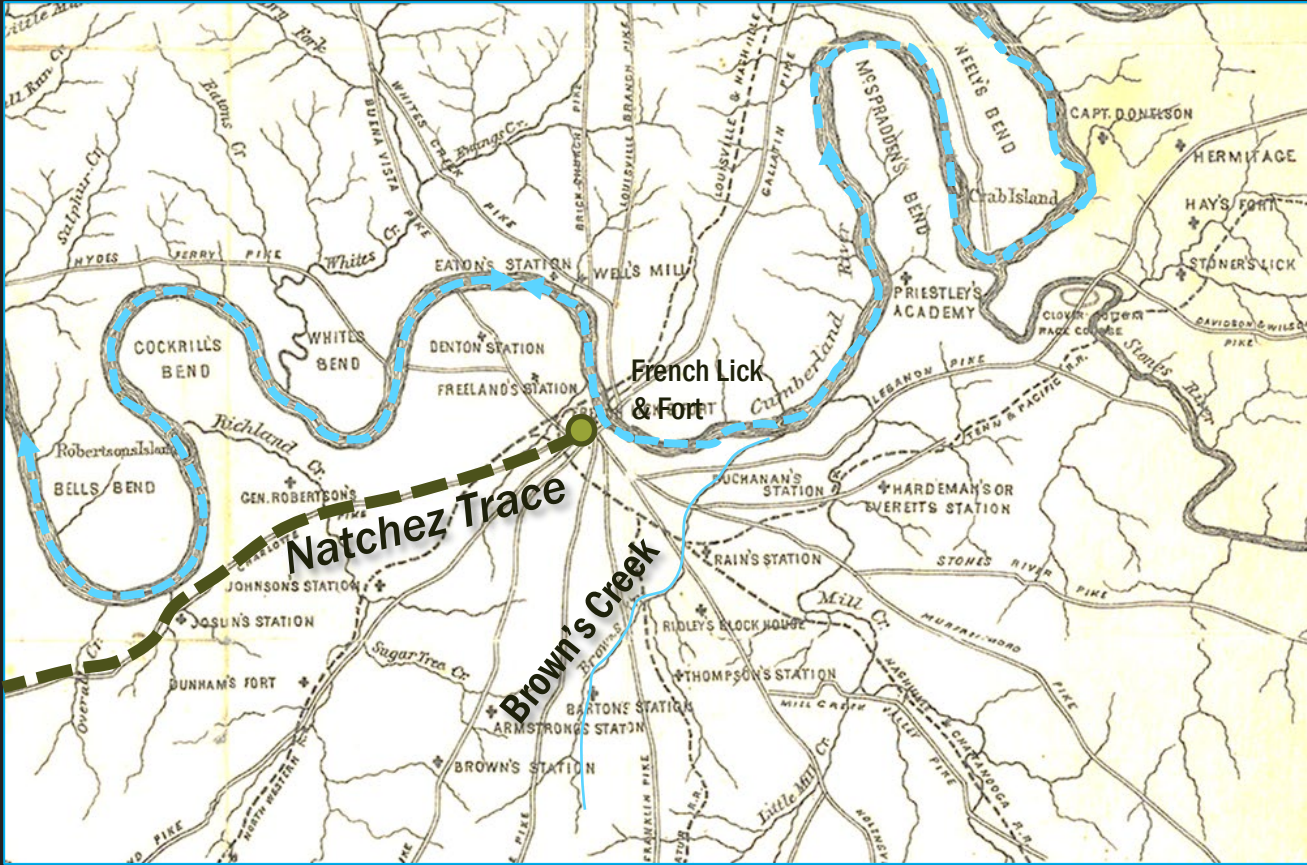
and features



that shaped
early
development

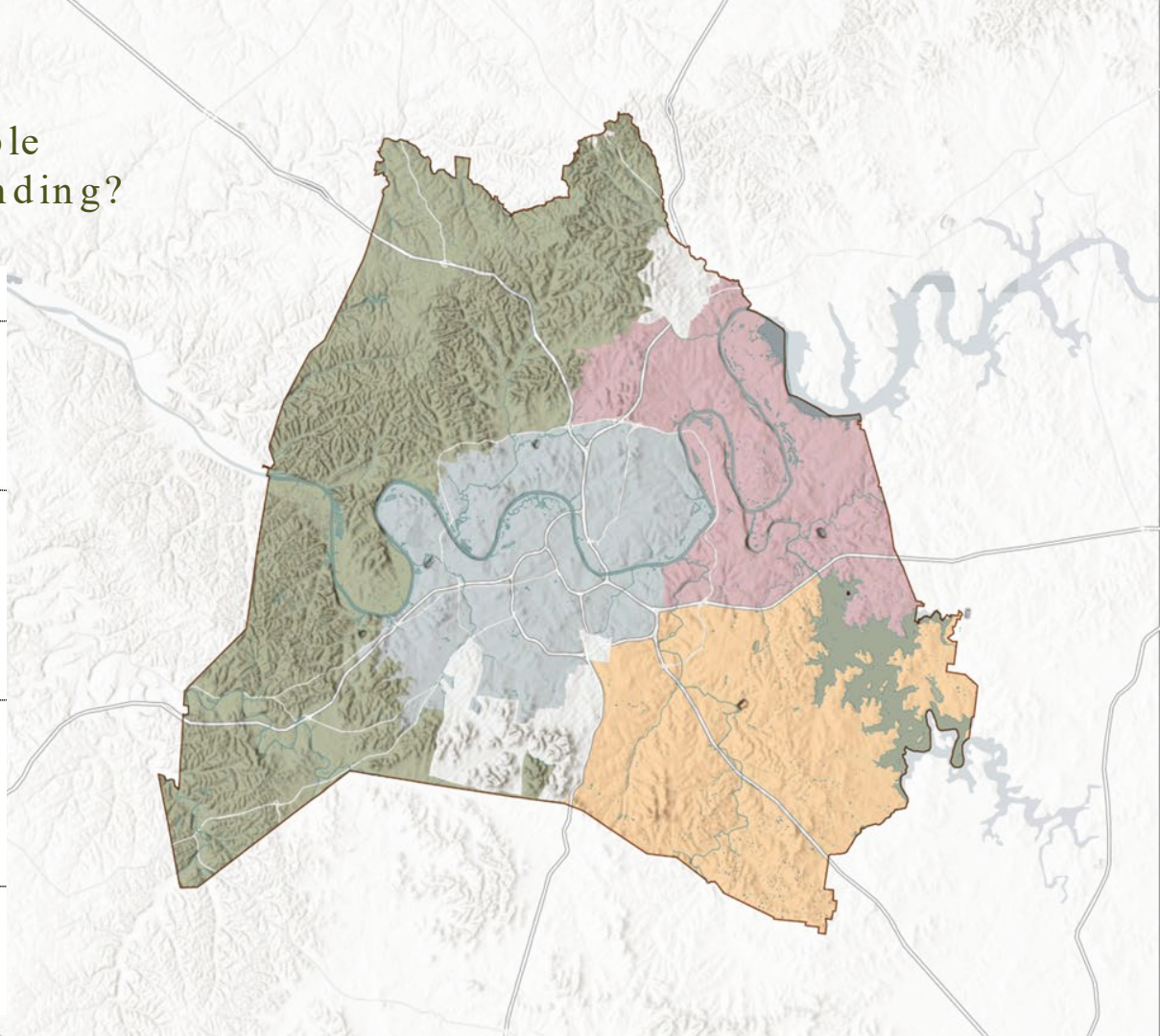
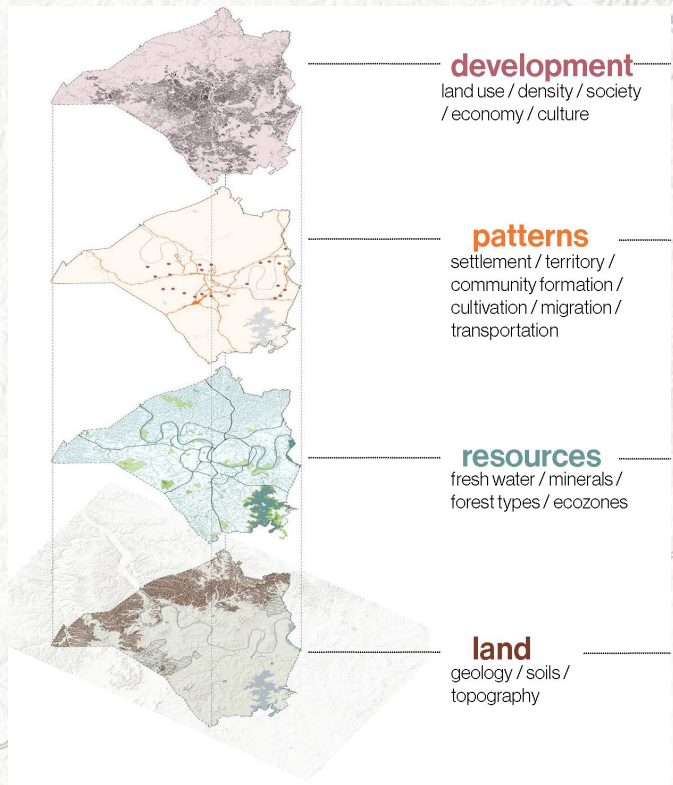


Natchez Trace on state archaeology map

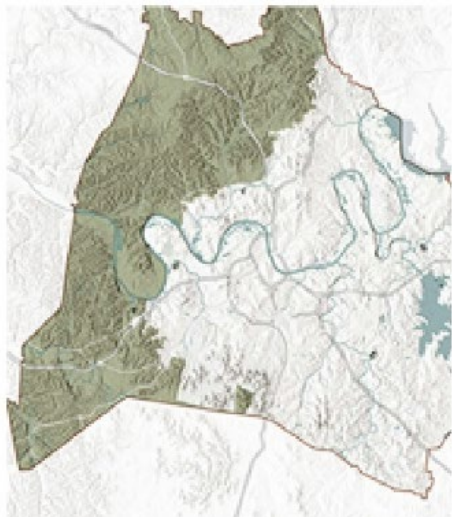


Key elements on siting the Cumberland Colony

How can we distill the diversity of Davidson County into digestible frames or lenses for understanding?



Northwest Highlands



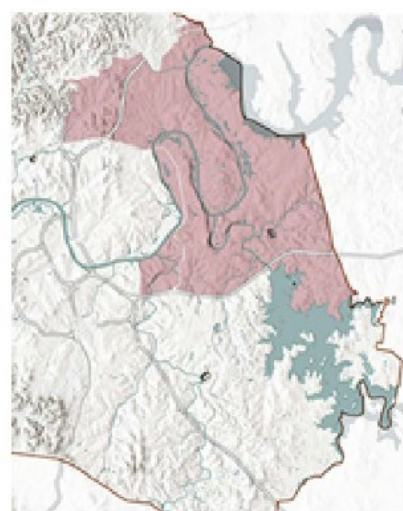
Historic Core



Nashville Basin



Eastern Bends



part 2 | patterns, dynamics, and projections



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“The city, for all its importance, can no longer be thought of only as a physical artifact; instead we must be aware of the **dynamic relationships**, both visible and invisible, that exist among the various domains of **a larger terrain** of **urban** as well as **rural** ecologies.”

(Mostafavi)

“Important concepts of ecological urbanism include: cities are part of the natural world; cities are habitats; cities are ecosystems; urban ecosystems are dynamic and interconnected; **every city has a deep, enduring context** ; urban design is a tool of human adaptation.”

(Spirn)



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“Urban design is an art of time as well as space; it is a projection into the future, which is complicated by the fact that **the urban ecosystem is constantly changing** in unpredictable ways. Knowing how a place has been shaped over time is essential to understanding its present and possible future.”

(Sporn)

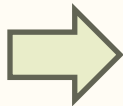
“The fundamental principles and strategies of 20th century infrastructure are at odds with the dynamics of the landscape.”

(Jane Wolff)



background

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Phase 2

What **dynamics** have shaped/are shaping our cultural landscape?

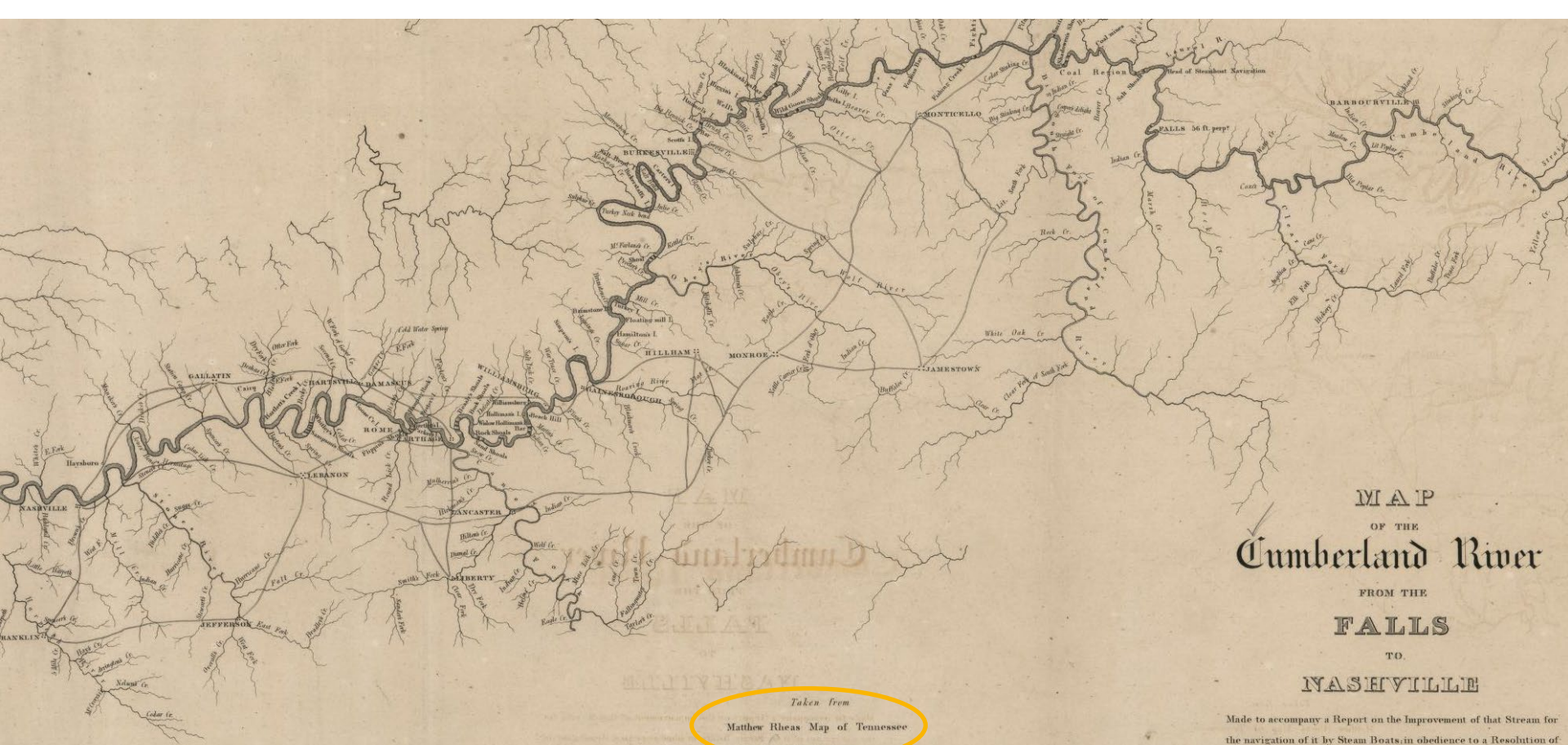
What **patterns or trajectories** are marking those forces?

What **interventions** do we need to enact to enable cultural and environmental resilience?

dynamics: harnessing the Cumberland River

Sketch of Plantations along the
Cumberland River 1786





MAP
OF THE
Cumberland River
FROM THE
FALLS
TO
NASHVILLE

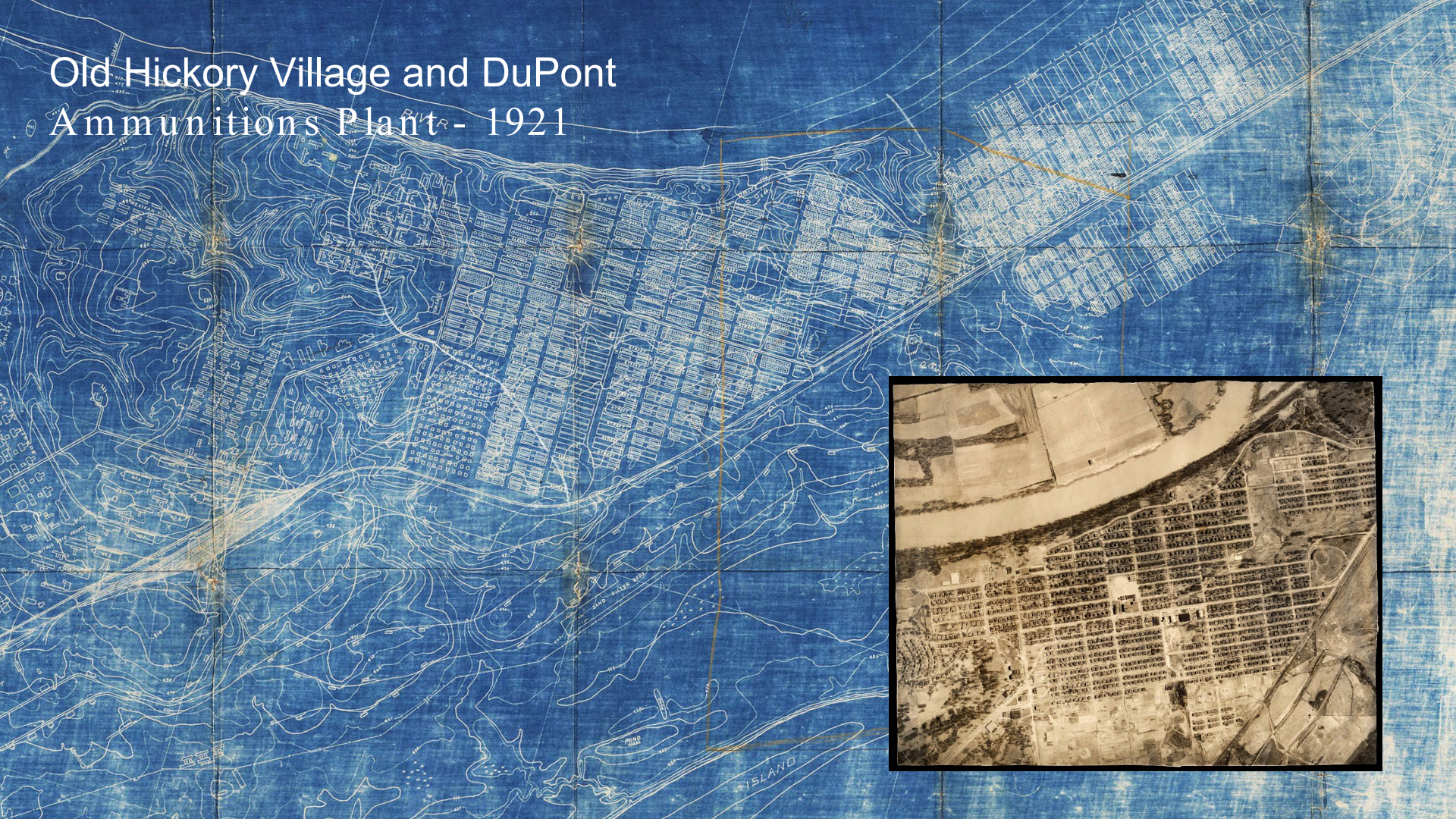
Taken from
Matthew Rheas Map of Tennessee
Drawn by
Randolph Coyle

Made to accompany a Report on the Improvement of that Stream for
the navigation of it by Steam Boats, in obedience to a Resolution of
Congress dated April 26th 1834.

by
Howard Stansbury
U.S. Asst. Gr. Eng.



Old Hickory Village and DuPont Ammunitions Plant - 1921



CORPS OF ENGINEERS PLAN FOR CUMBERLAND RIVER

LEGEND

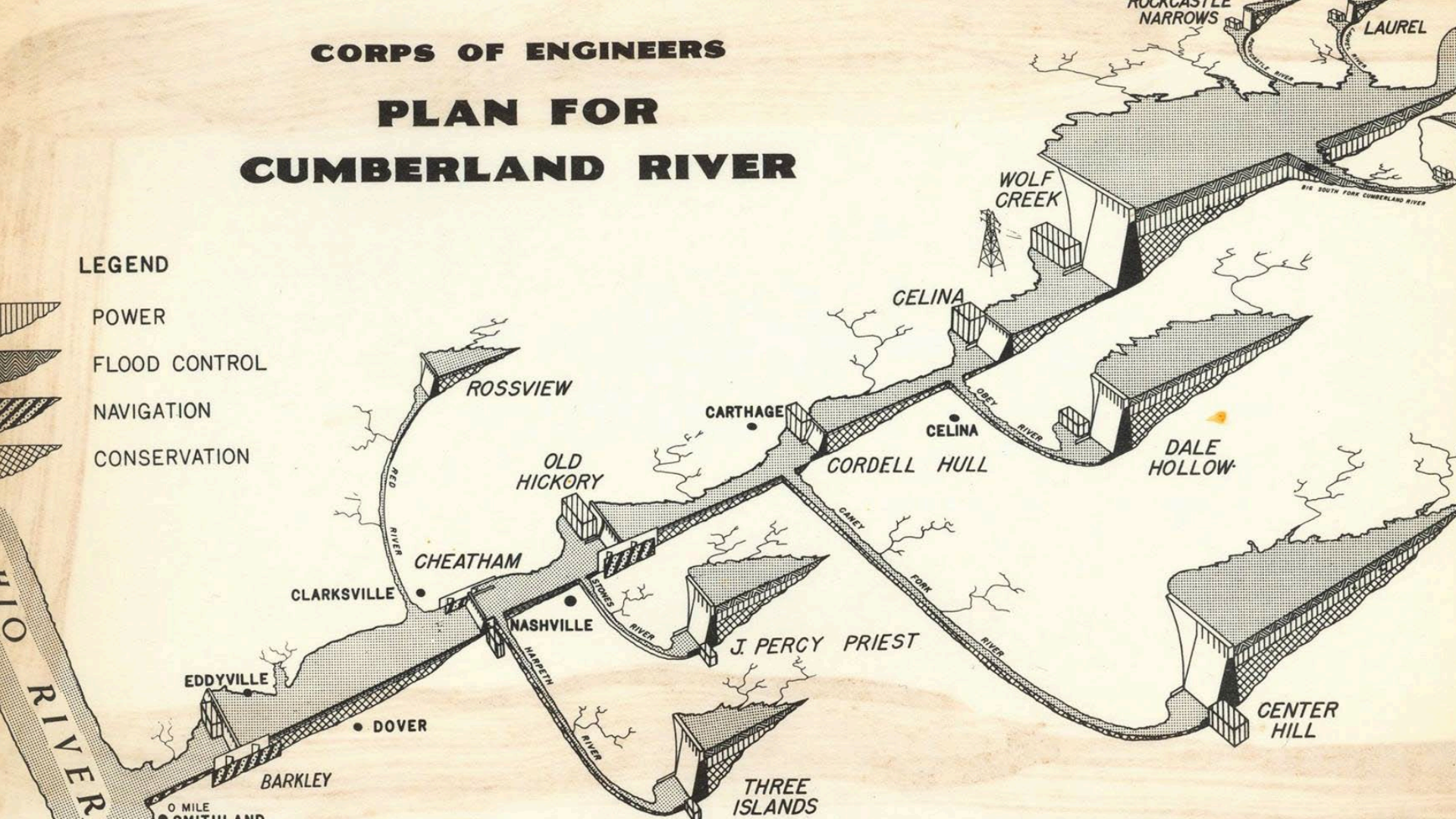


POWER

FLOOD CONTROL

NAVIGATION

CONSERVATION



Pros: Significant landscapes and parks created by harnessing the river



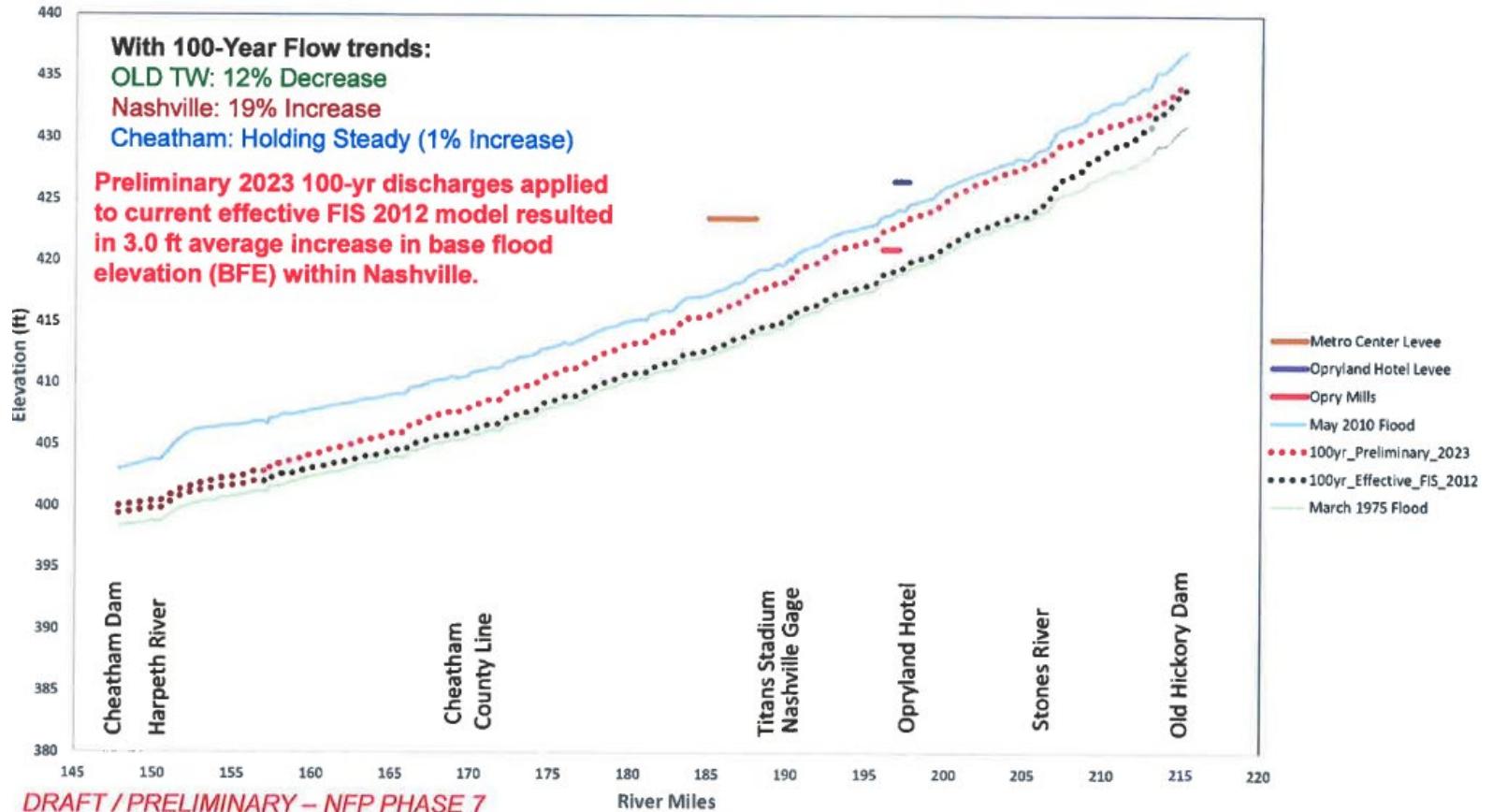
Stones River Greenway

“The fundamental principles and strategies of 20th century infrastructure are at odds with the dynamics of the landscape.”

(Jane Wolff)

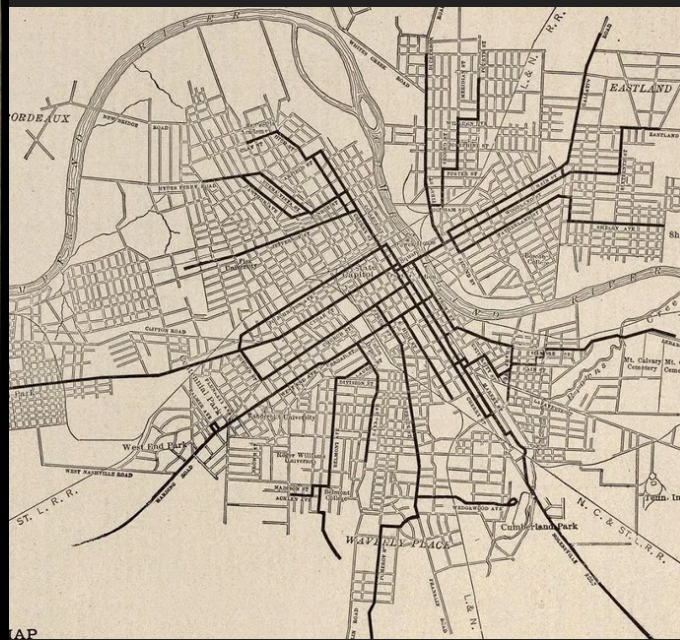
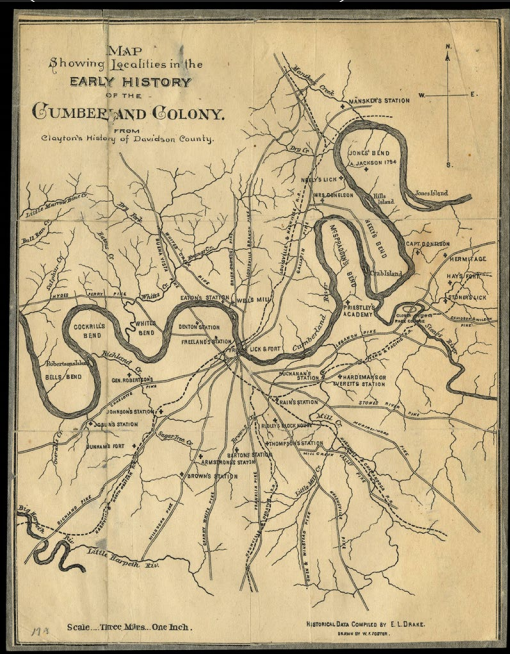


USACE recent flood modeling



patterns

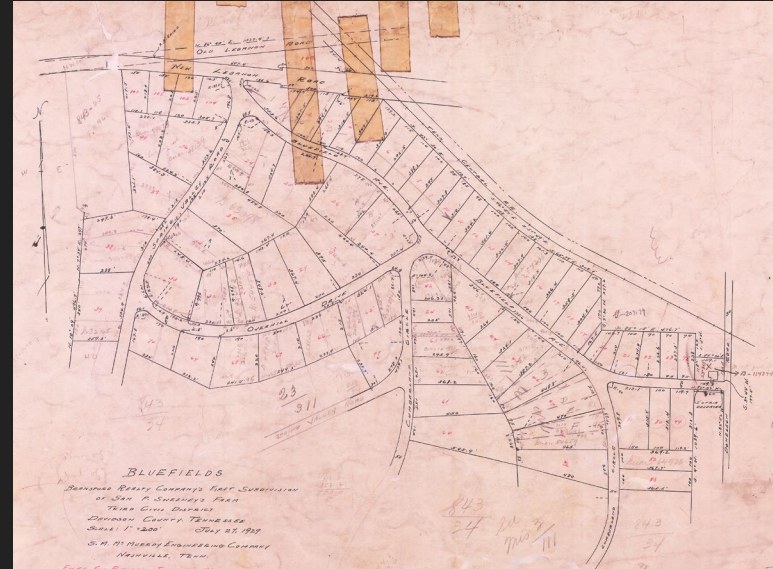
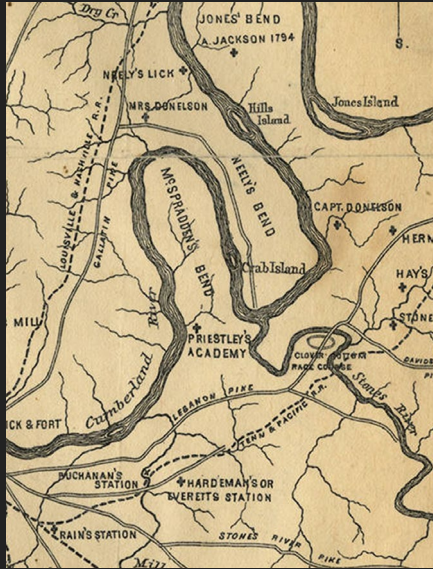
pre-modern hub and spoke (and streetcar suburbs) (historic core)



Edgefield 1860s

trajectories:
stations & antebellum farms to pre
(Eastern Bends)

-war suburban housing



Development patterns: Bluefields
NRD (1929)

trajectories

modernity: enabling frictionless
development at the cost of legibility



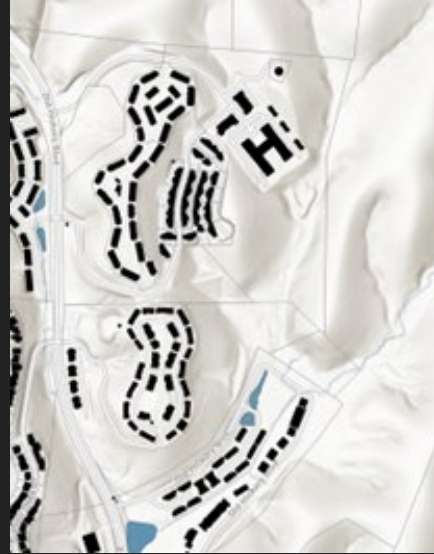
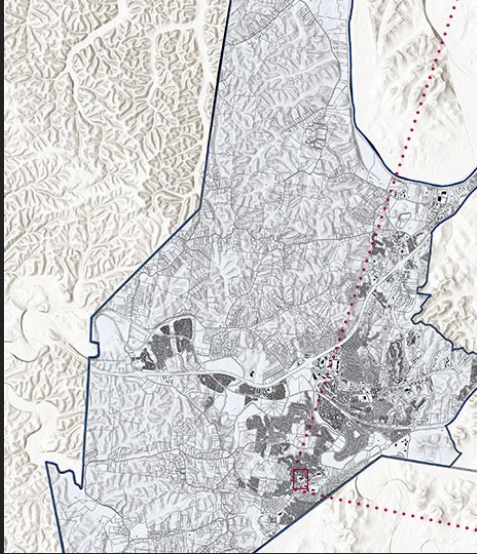
bulldozer: 1915



backhoe: 1948

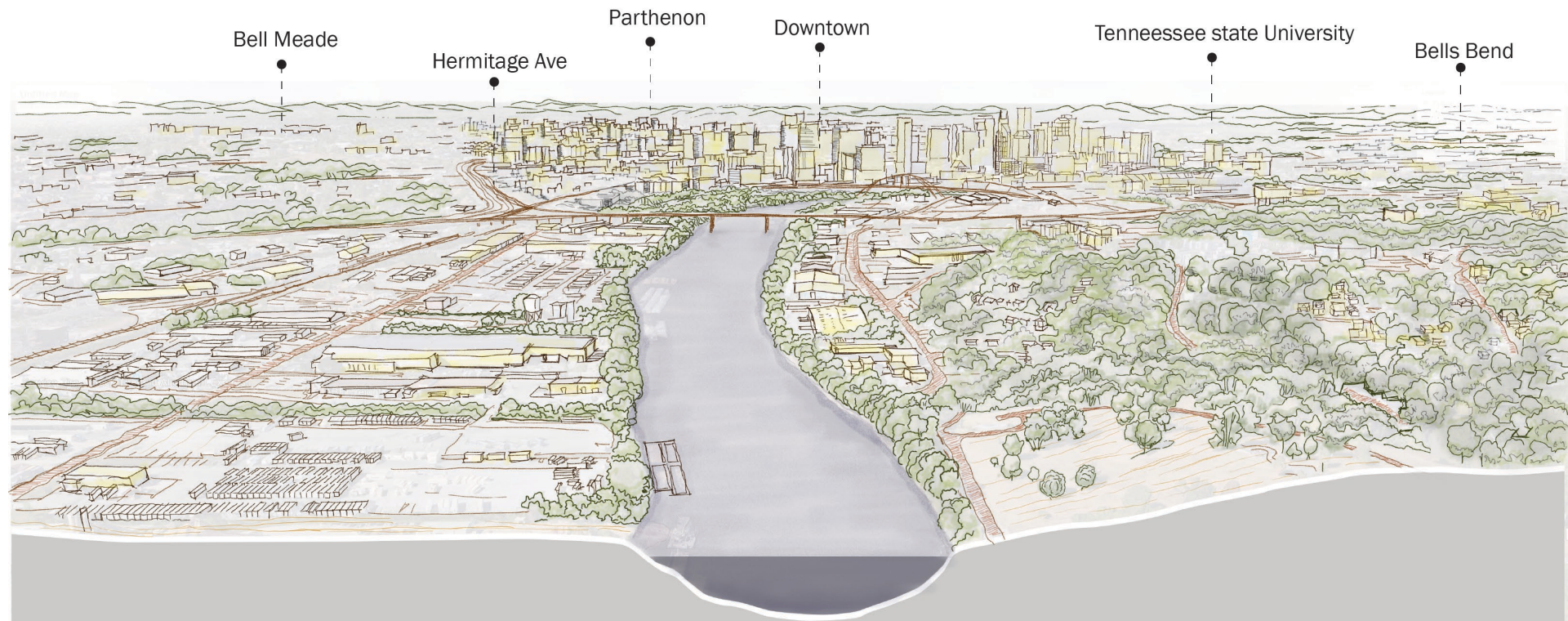
trajectories:
contemporary housing patterns

(North west Highlands)



Bellevue: late 90s to 2010s

3 | integration & conclusion



urban ecology at multiple scales

scale

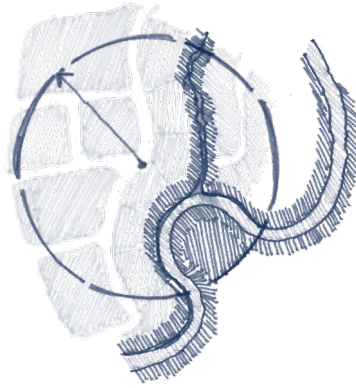
landscape systems



considerations

- Highland Rim Forest
- steep slopes & ridgelines

neighborhood



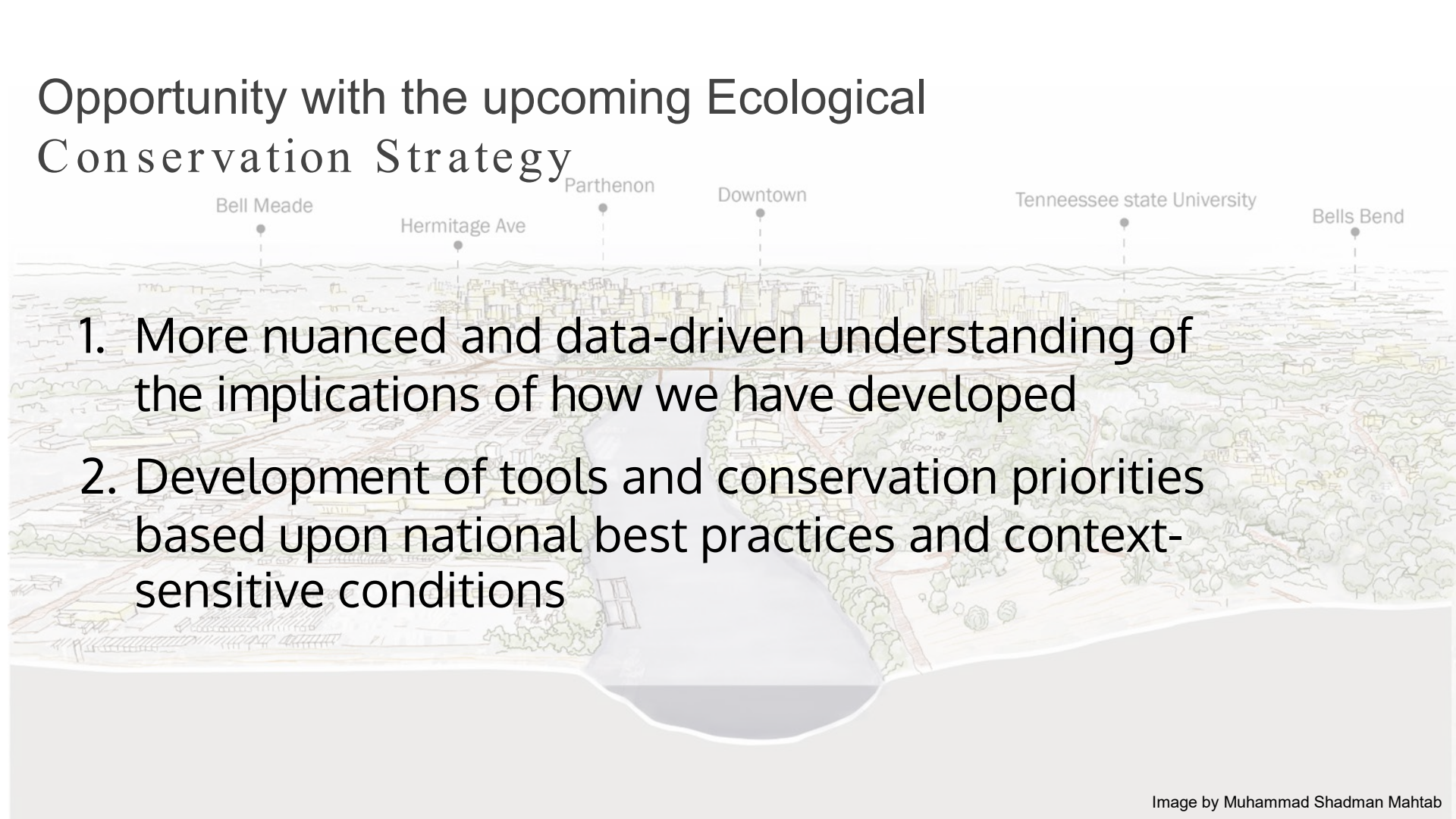
- Urban Riverfront Design
- overlays
- conservation easements

human
experience



- 1st Ave. & Riverfront Park
- tree code

Opportunity with the upcoming Ecological Conservation Strategy

- 
1. More nuanced and data-driven understanding of the implications of how we have developed
 2. Development of tools and conservation priorities based upon national best practices and context-sensitive conditions