

Needs Analysis Work Sessions

Thu Sep. 15
9:30 - 11:00

- EF 9: Communities of Concern
- INC 1a: Bicycle
- INC 1b: Pedestrian
- EF 6: Cyclists & Peds
- INC 5: Safety/Security
- INC 7: Maintenance

Fri Sep. 23
2:00 - 4:00

- INC 2: Transit
- EF 7: Transit
- EF 1: Redlining
- EF 2: Dissection of Neighborhoods
- EF 3: Urban Renewal
- EF 4: Inner Ring Suburbs

**Thu Oct. 6
2:00 - 3:00**

- **INC 4: Land Use**
- **INC 6: Connectivity**
- **INC 8: Economic Development**
- **EF 5: Car-centric Planning**

4th Work Session
TBD

- INC 3: Freight
- INC 9: Technology
- INC 10: Sustainability
- EF 8: Climate Equity
- EF 10: Climate Resiliency

Today's Agenda

1

Quick Updates on Items Covered in Prior Work Sessions

- Equity Factor 9: Communities of Concern
- Investment Need Category 2: Transit
- Equity Factor 7: Transit
- Equity Factor 1: Redlining
- Equity Factor 2: Dissection of Neighborhoods
- Equity Factor 3: Urban Renewal
- Equity Factor 4: Inner Ring Suburbs

2

Needs Analysis Initial Results

- Investment Need Category 4: Land Use
- Investment Need Category 6: Connectivity
- ^{1.} • Investment Need Category 8: Economic Development
- ^{2.} • Equity Factor 5: Car-centric Planning

Quick Updates on Items Covered in Prior Work Sessions



Equity Factor 9: Communities of Concern

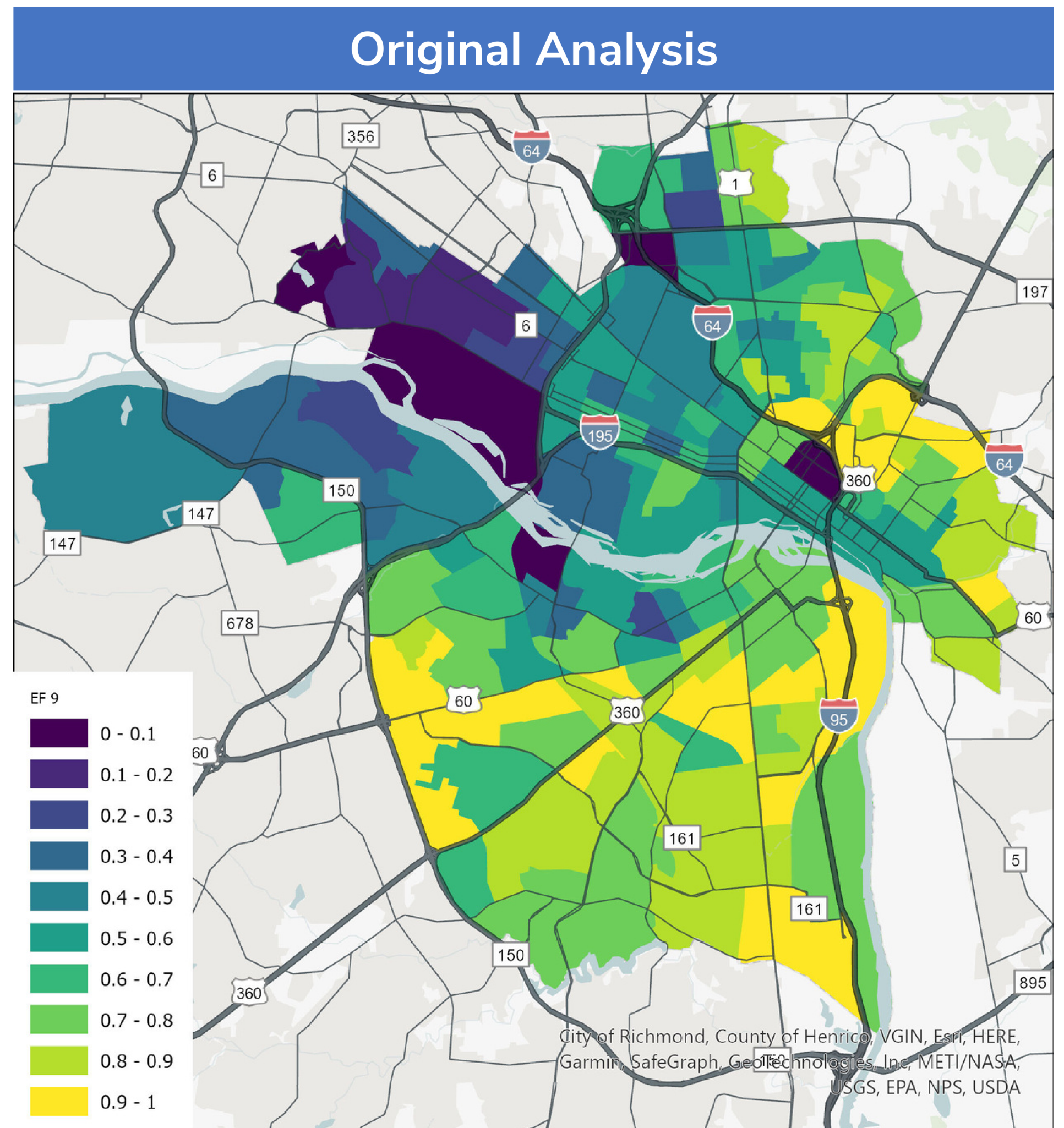
Prioritize densely populated areas of communities of concern including communities of color, low-income communities, senior and limited mobility populations, families traveling with children, and at-risk youth.

Eight Components:

- BIPOC
- Low-income
- Old age
- Renters
- Non-English primary language
- At-risk youth
- BIPOC renter
- Limited mobility

Original Analysis

1.
 - Based on the **percentage** of residents in each Census block that met the criteria.
 - Areas with primarily industrial or non-residential areas showing as high communities of concern



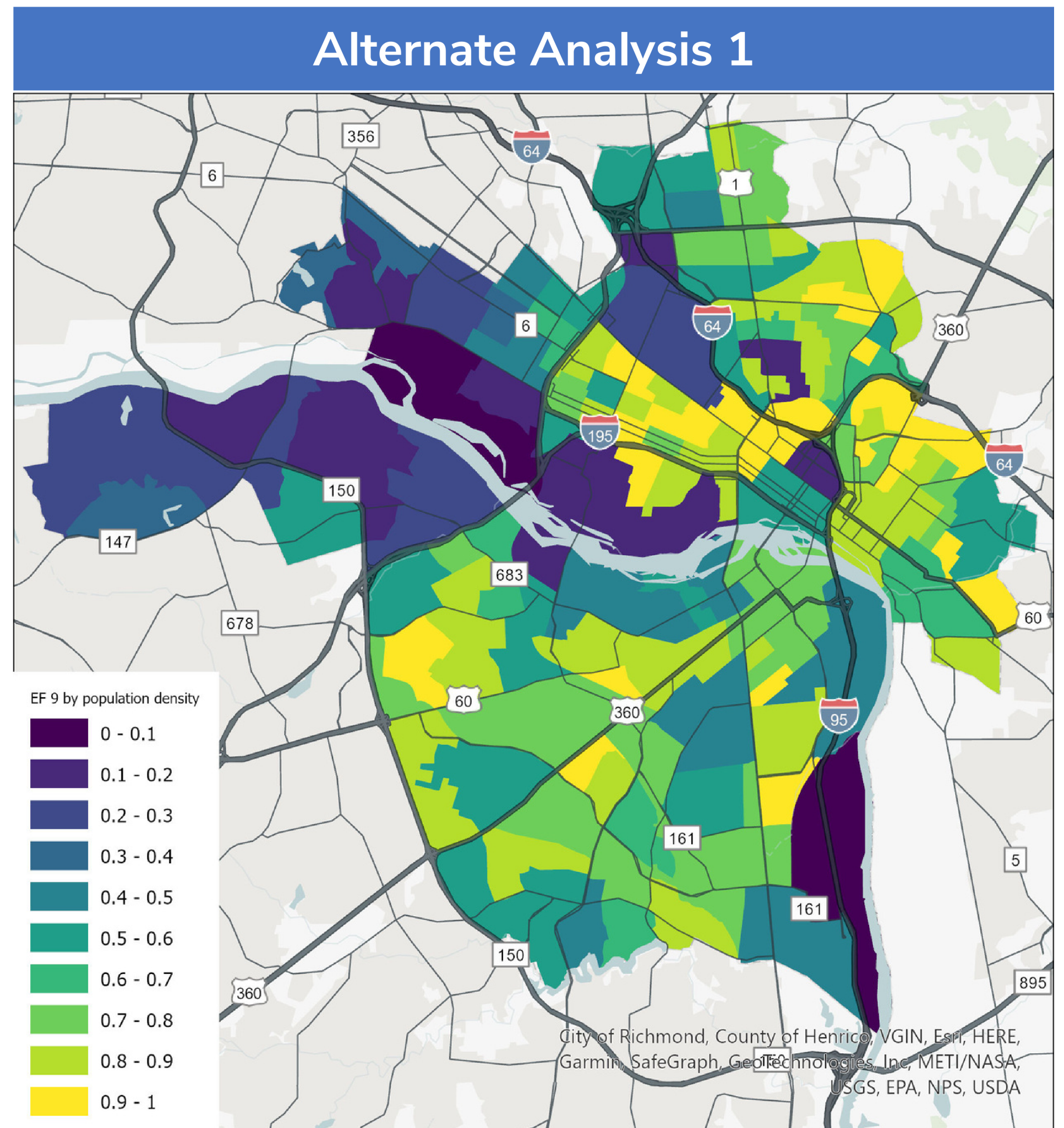
Equity Factor 9: Communities of Concern

Eight Components:

- BIPOC
- Low-income
- Old age
- Renters
- Non-English primary language
- At-risk youth
- BIPOC renter
- Limited mobility

Alternate Analysis 1

- Based on **population density** to better reflect where there are more people who meet the criteria
- Too highly correlated with general population density

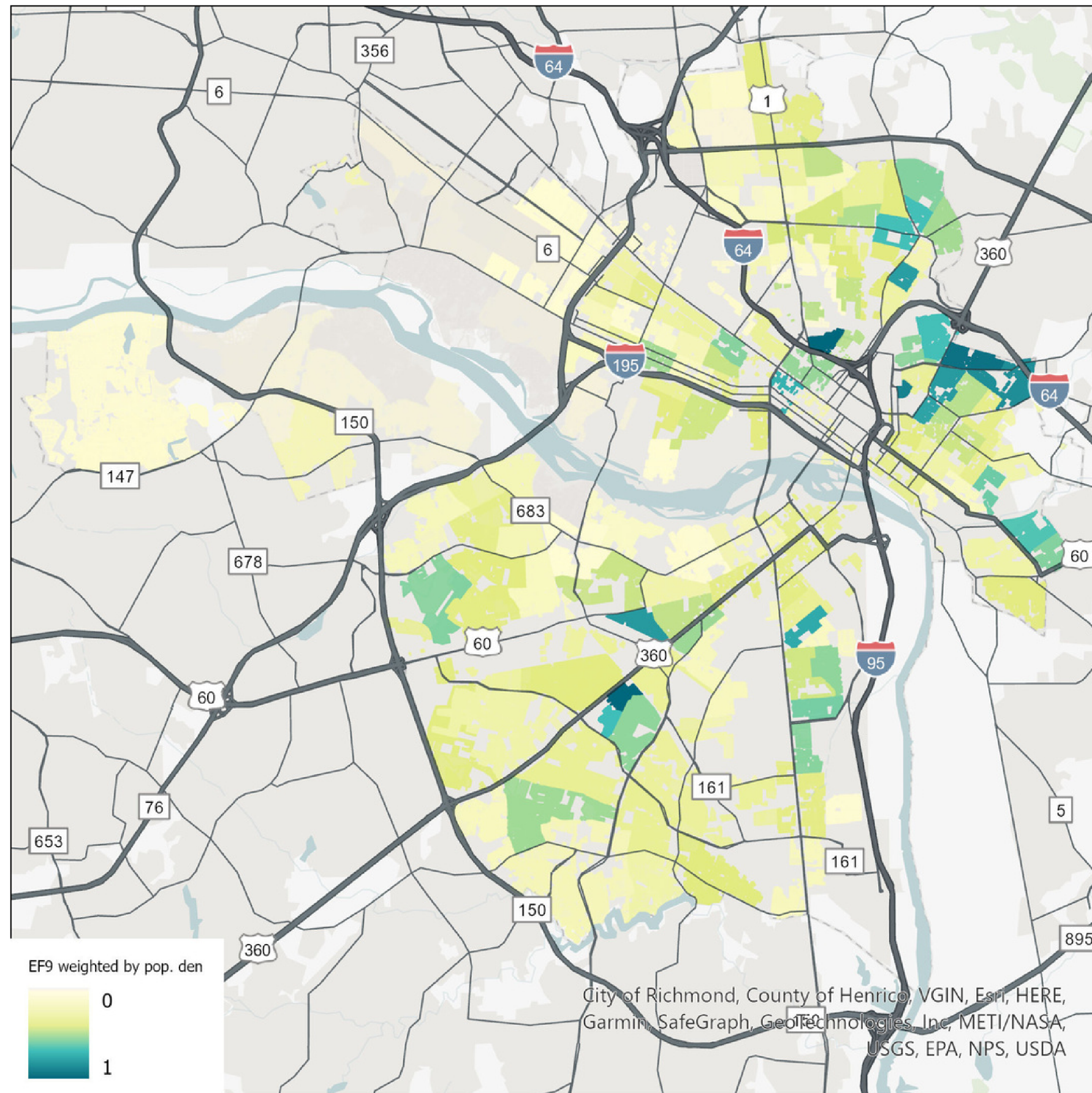


Equity Factor 9: Communities of Concern

Alternate Analysis 2:

- Weights a percentage-based score by the "full" population density of individuals *in at least one community of concern*
 - "Full density" produces more differentiation amongst residential areas in Southside than does "residential density" [options from last week]
 - Weighting approach de-emphasizes areas with low populations, even if high proportions of that population are in communities of concern (e.g. industrial block group around 95 near Manchester)
- Visualization updates include:
 - Masking non-residential areas to show only residential parcels
 - New color scale changes, where darker areas indicating higher need implied by communities of concern populations

Equity Factor 9: Communities of Concern



Investment Need Category 2: **TRANSIT**

(also relevant to Equity Factor 7)

A transit need is revealed:

where access is significantly degraded by:

- **the absence of transit,**
- inadequate span of frequent service (off-peak service hours)
- unreliable service
- inaccessible/uncomfortable stops

with less tolerance for poor/underperforming accessibility:

- in Richmond 300 Nodes
- along Great Streets
- along streets with existing transit routes
- along the high injury street network

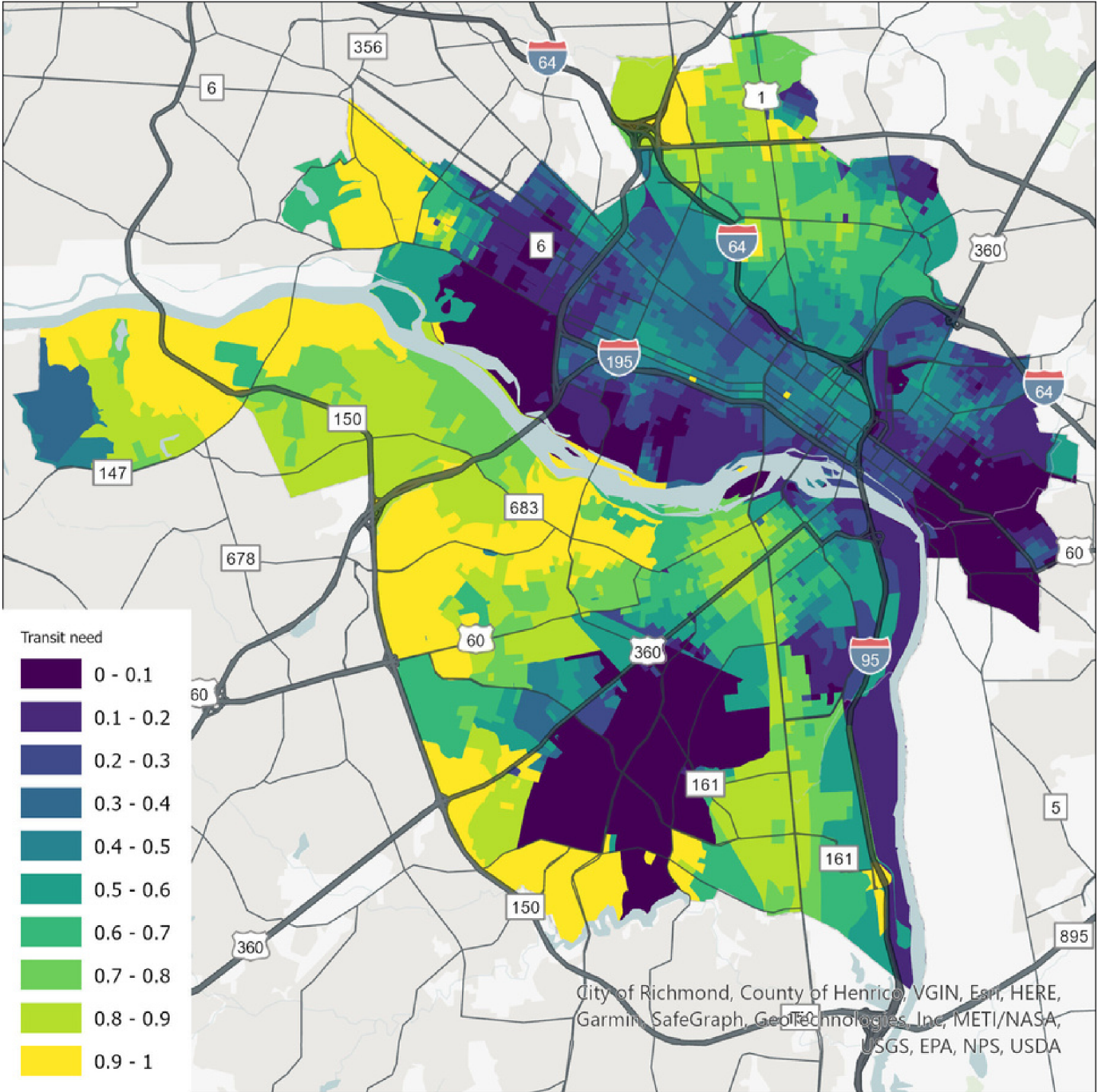
Initial transit accessibility analysis looked only at the quality of service, which did not account for poor accessibility due to poorly designed service.

Renaissance will rerun the analysis to include connectivity. This will better express transit needs due to poor service.

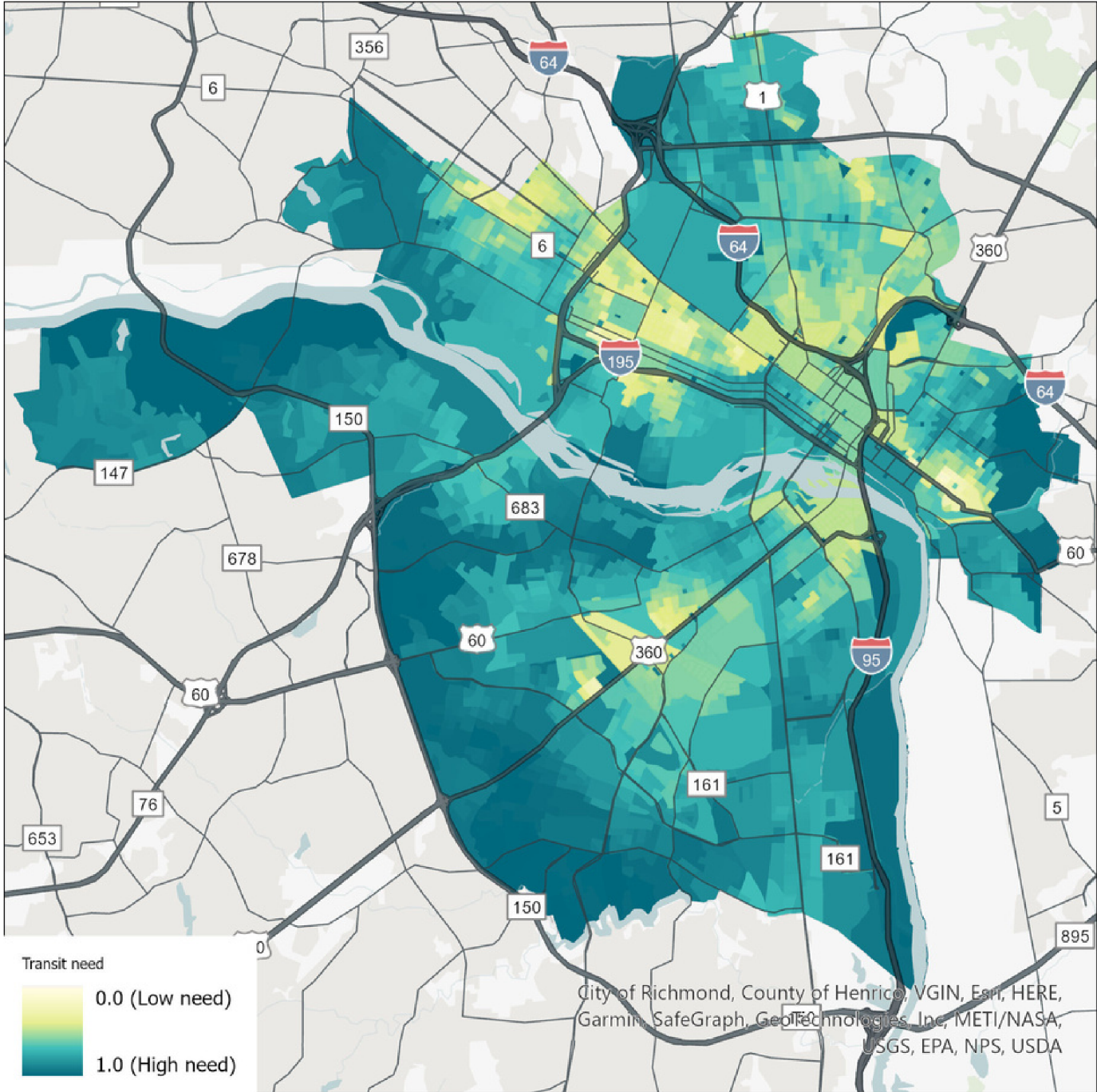


Investment Need Category 2: **TRANSIT**

Transit Need - **Prior Analysis**
based solely on Quality of Service



Transit Need - **Revised Analysis**
Quality of Service & Connectivity

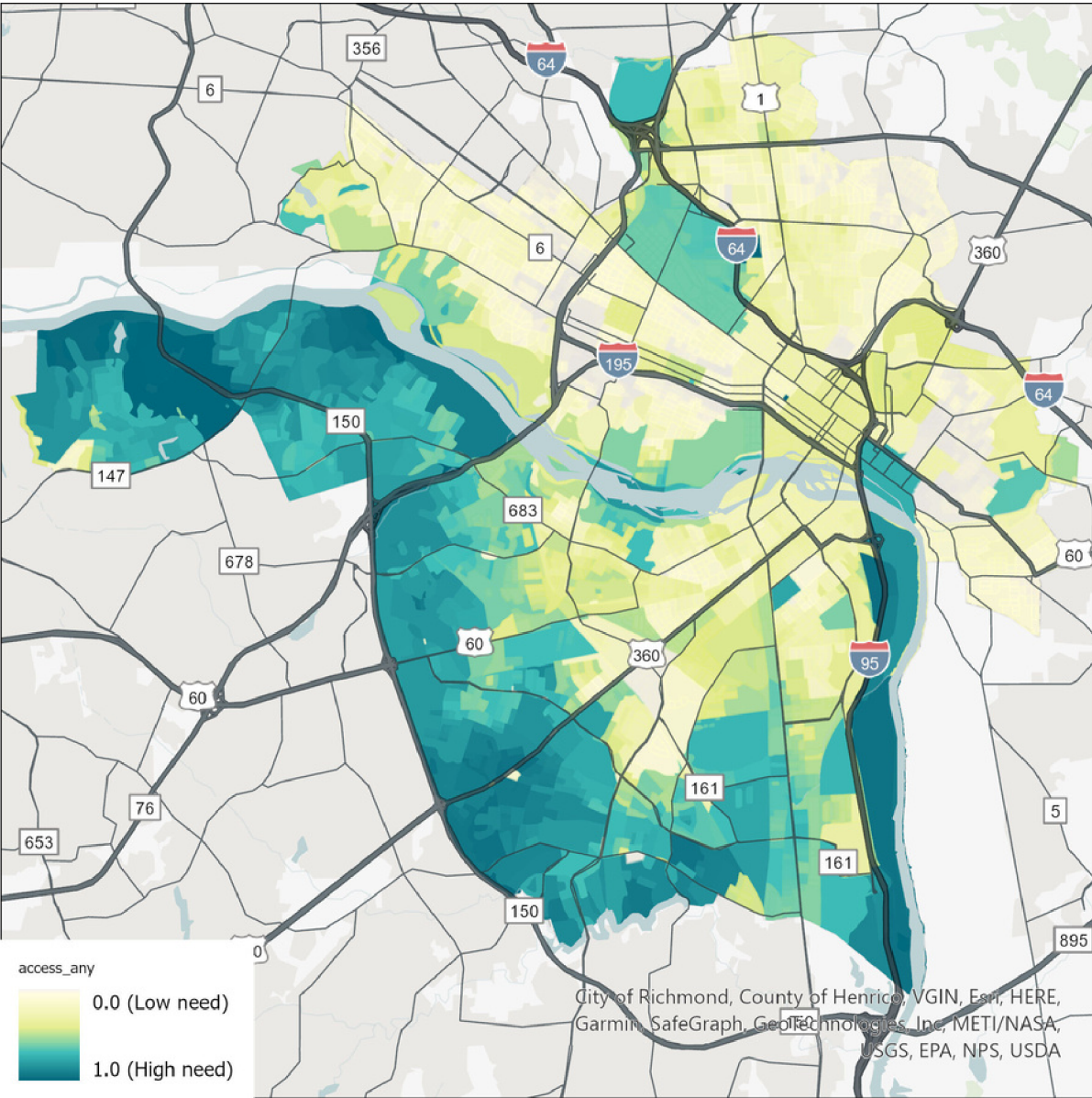


Equity Factor 1: Redlined Areas

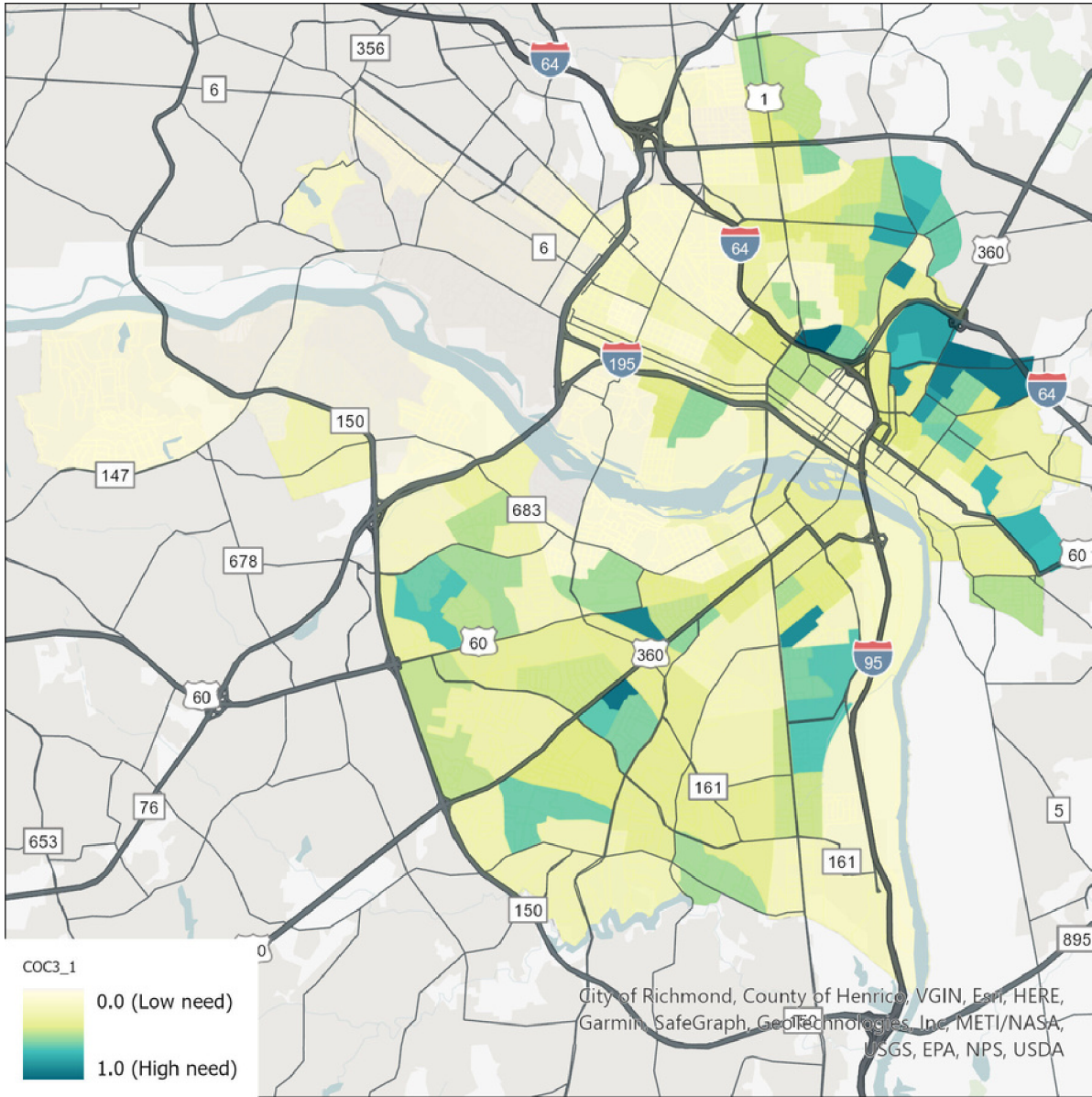
Improve access to housing, jobs, services, recreation, and education, addressing remaining inequities created by redlining.

The individual redlined shapes produced areas too small for use. The team buffered the redlined areas by 0.25 miles to produce a geography that is usable.

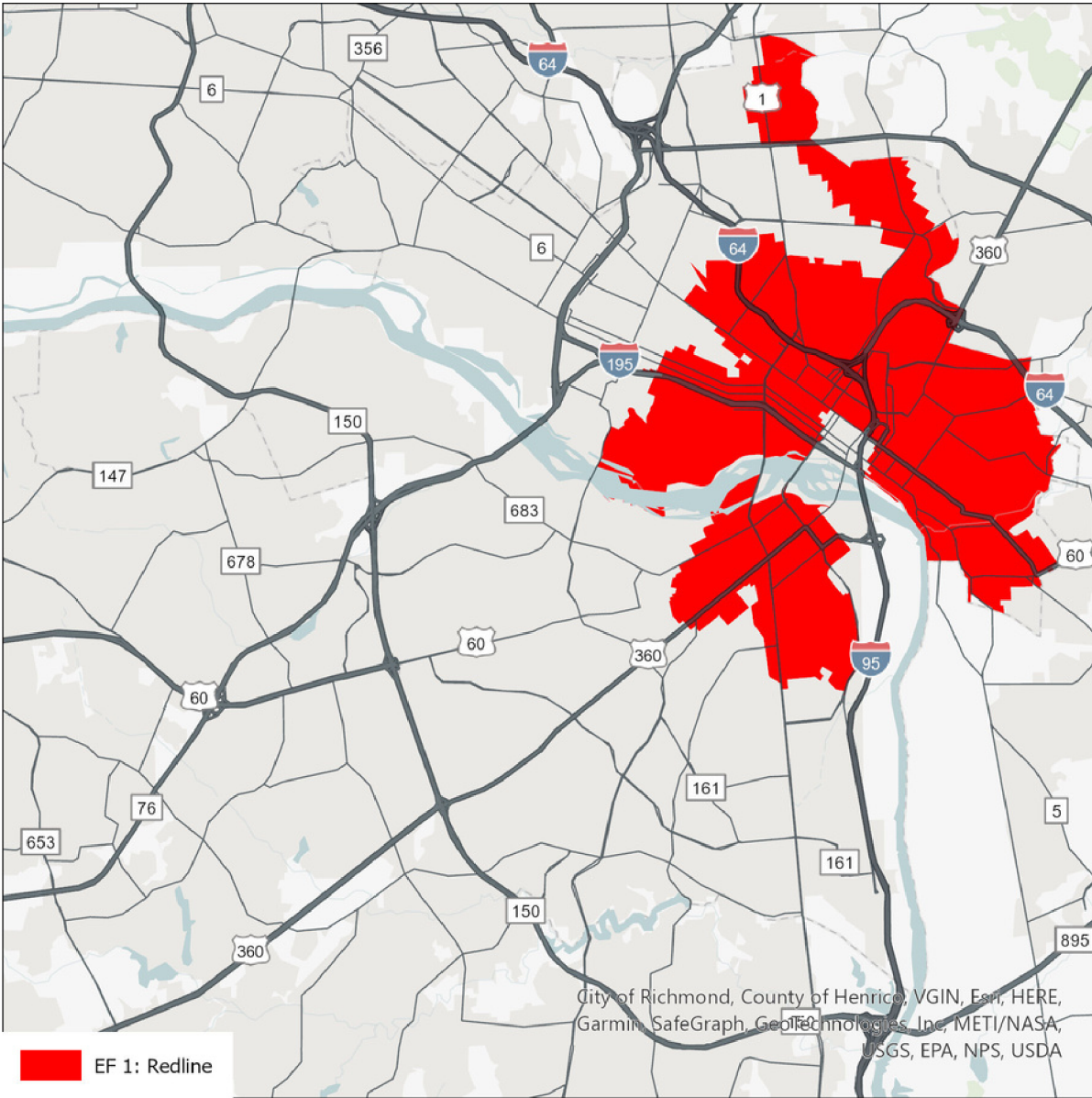
Access need



BIPOC, low-income, BIPOC renter



Redlined areas

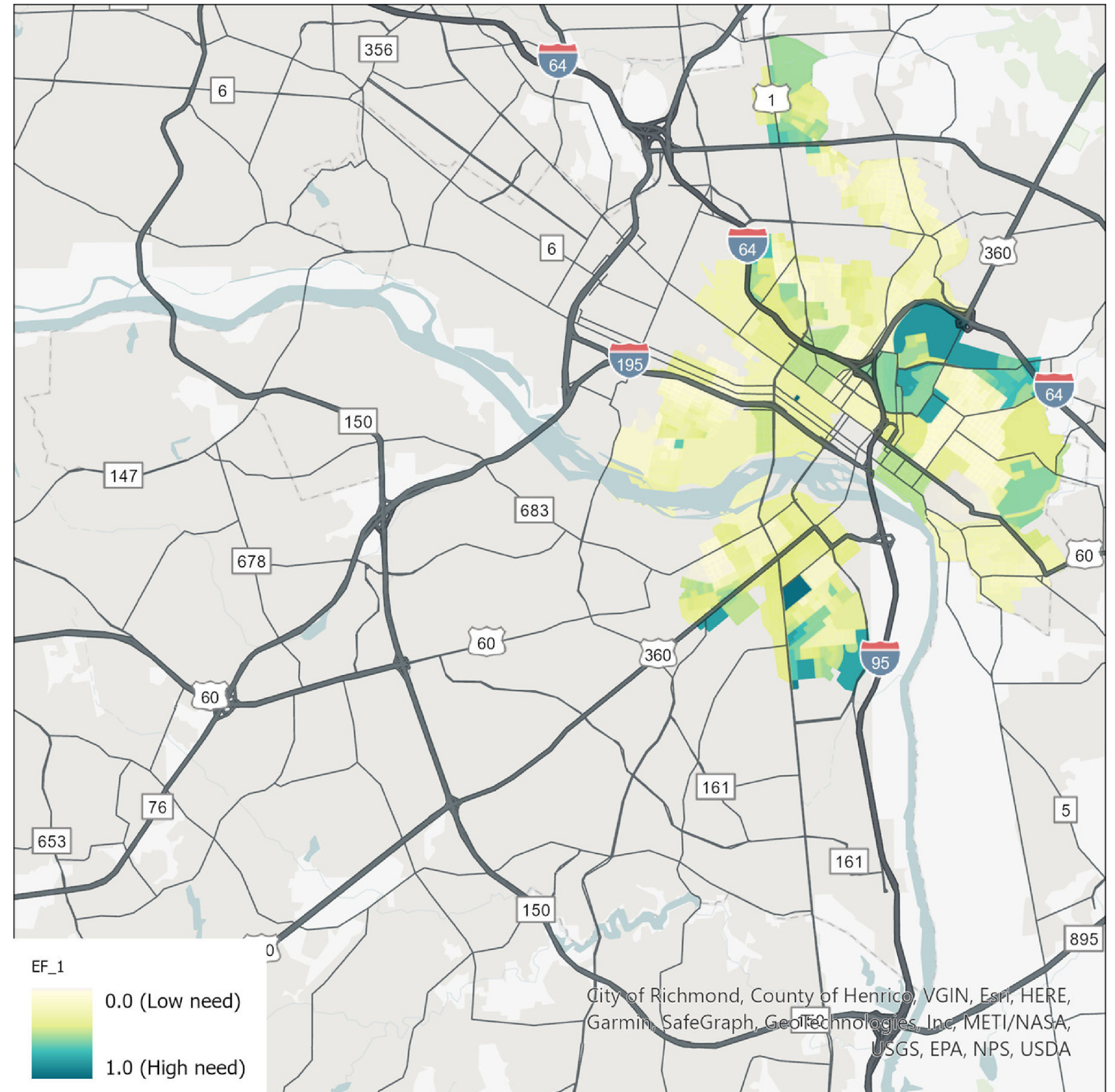


Equity Factor 1: Redlined Areas

Combined Map

Areas highlighted for EF1 are those:

- that were redlined,
- that still have high concentrations of low income and BIPOC populations, and low rates of BIPOC home ownership, and
- where accessibility to jobs, services, recreation, and education by walk, bike, or transit modes is underperforming

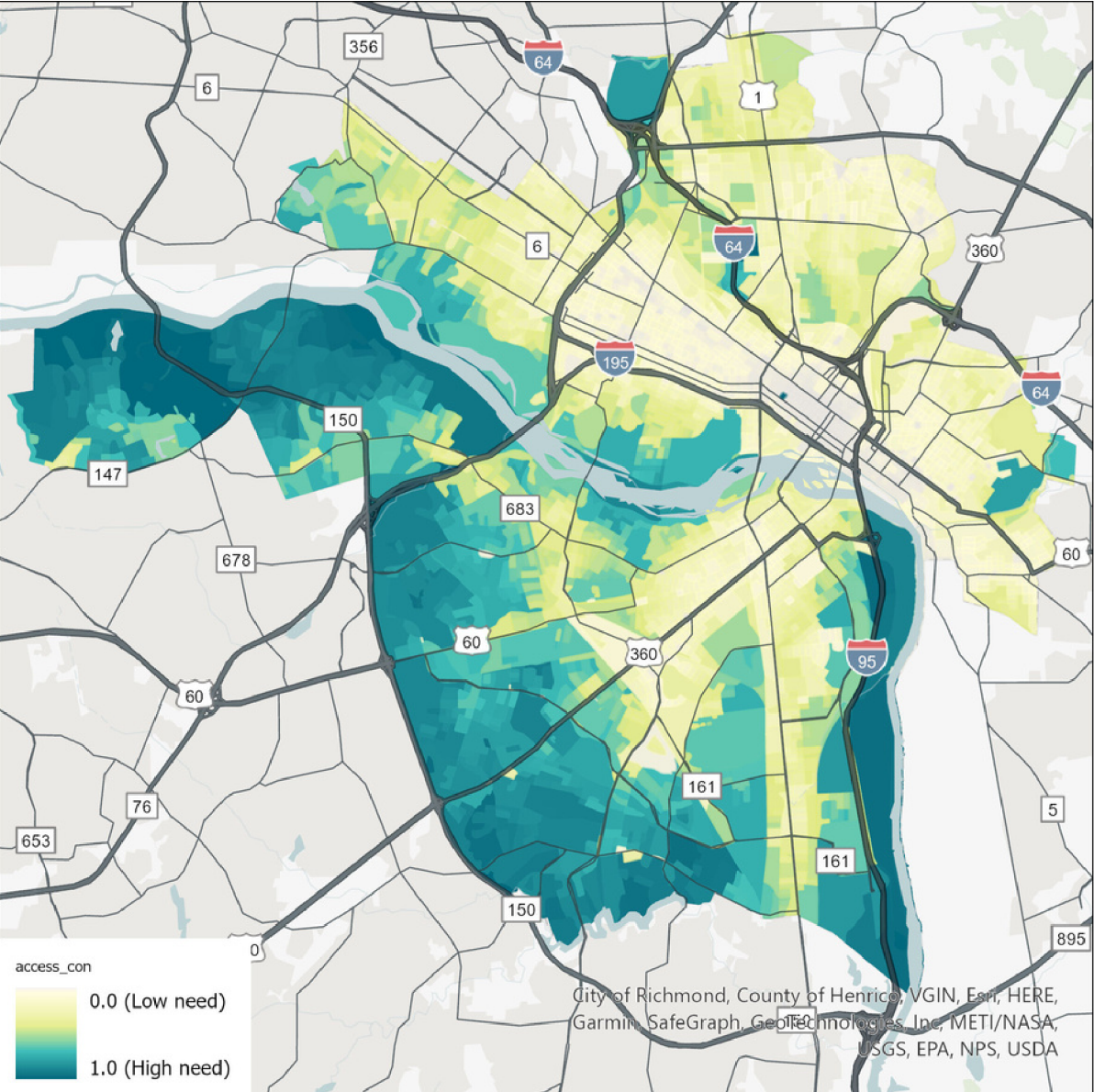


Equity Factor 2: Dissected Neighborhoods

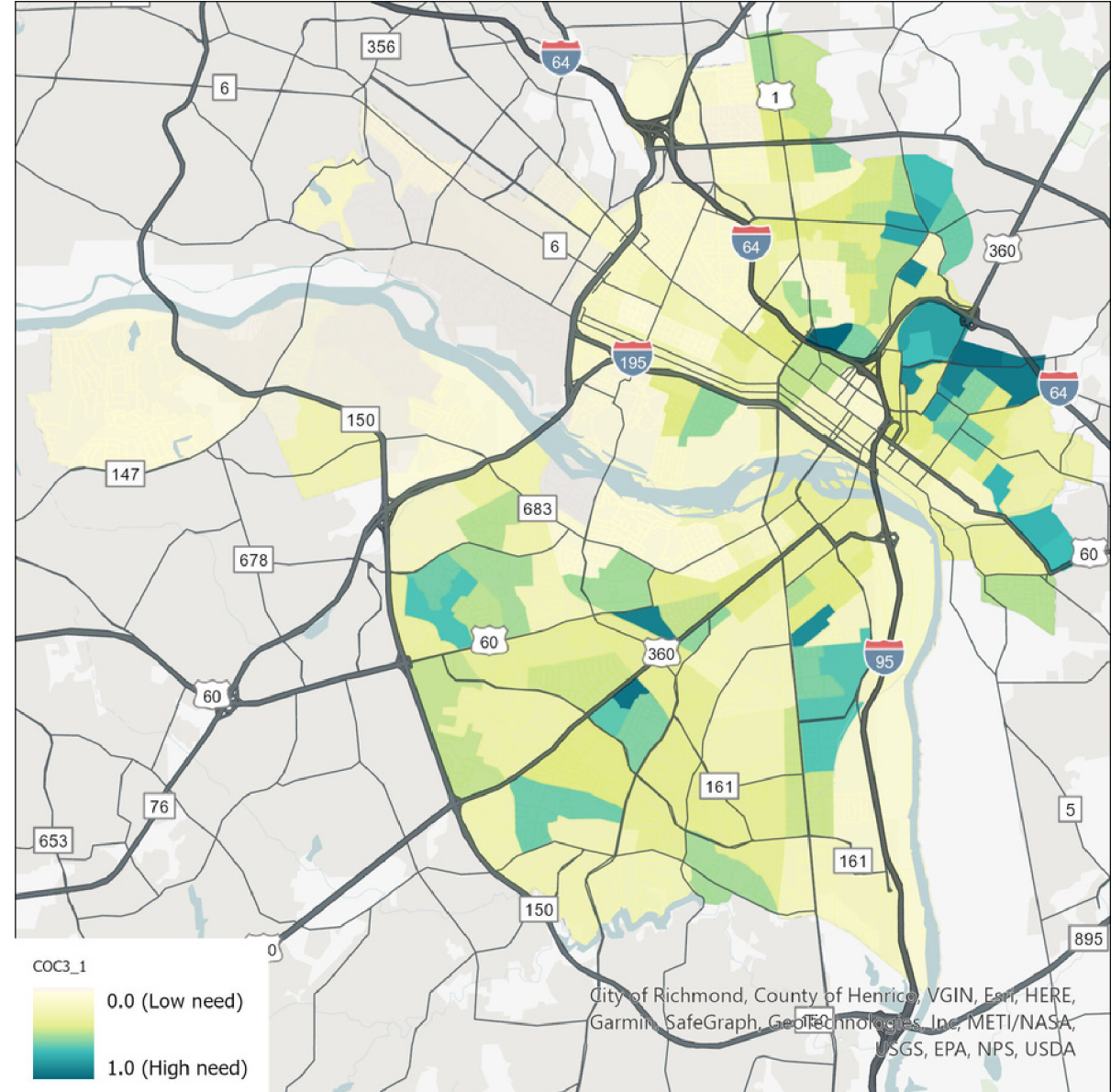
Reconnect and revitalize communities to address inequities created by the highway system's dissection of neighborhoods.

The Richmond Connects team examined each area individually to determine if the construction of the highway system resulted in neighborhood dissection.

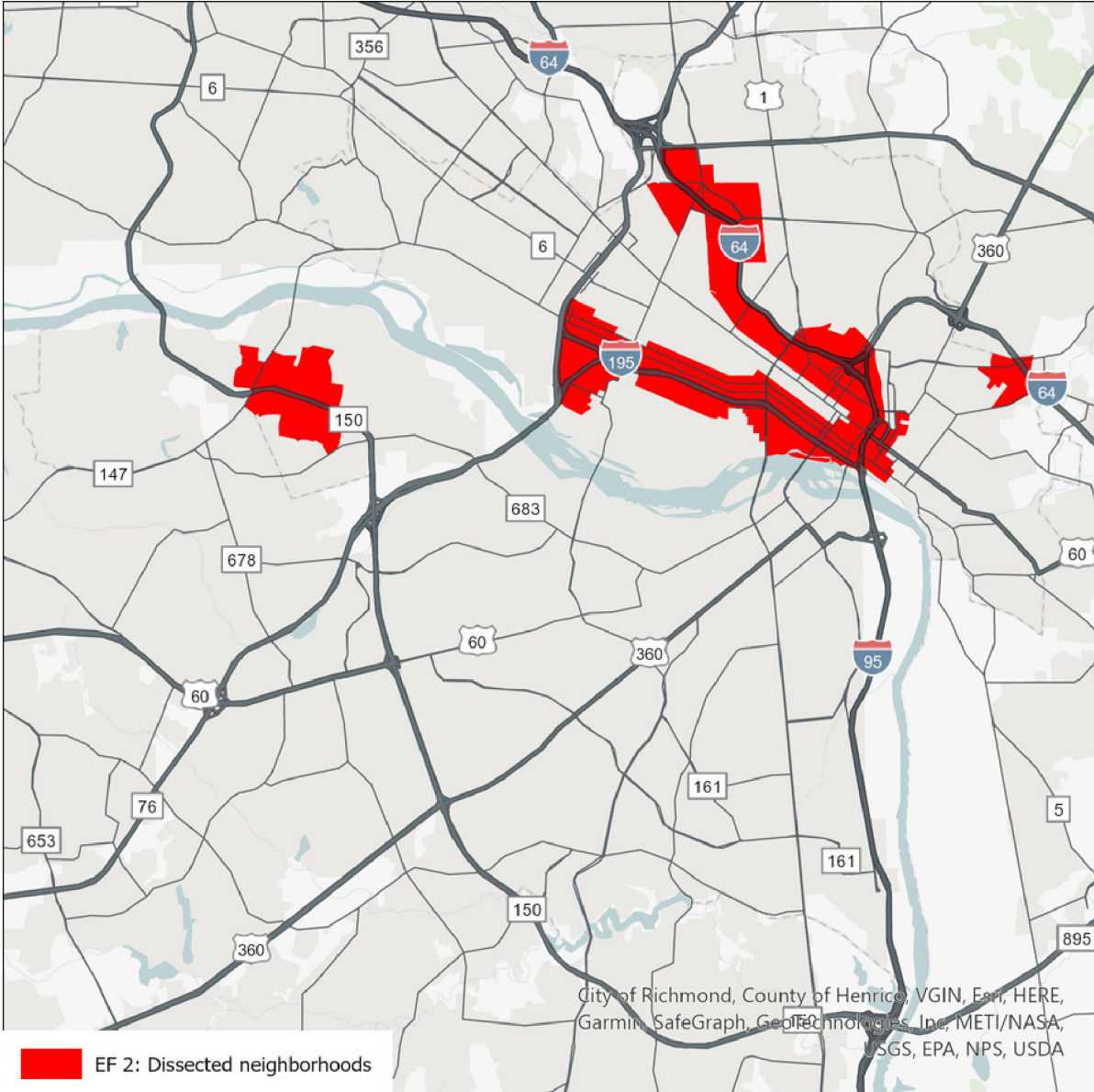
Access need



BIPOC, low-income, BIPOC renter



Dissected neighborhoods

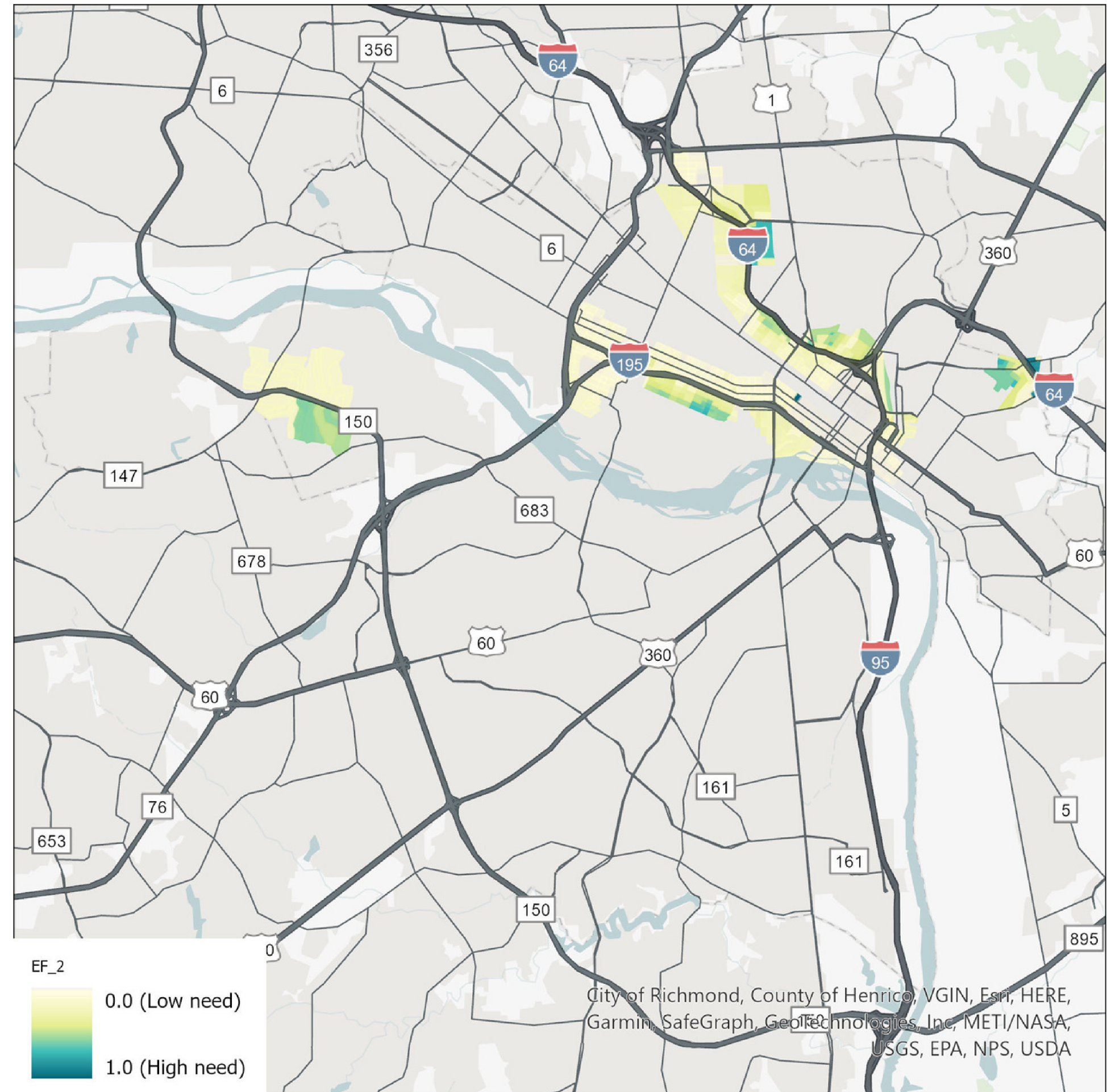


Equity Factor 2: Dissected Neighborhoods

Combined Map

Areas highlighted for EF2 are those:

- that were dissected by highway construction,
- that have
 - high concentrations of low income and BIPOC populations, and
 - low rates of BIPOC home ownership, and
- where connectivity to jobs, services, recreation, and education by walk, bike, or transit modes is degrading accessibility

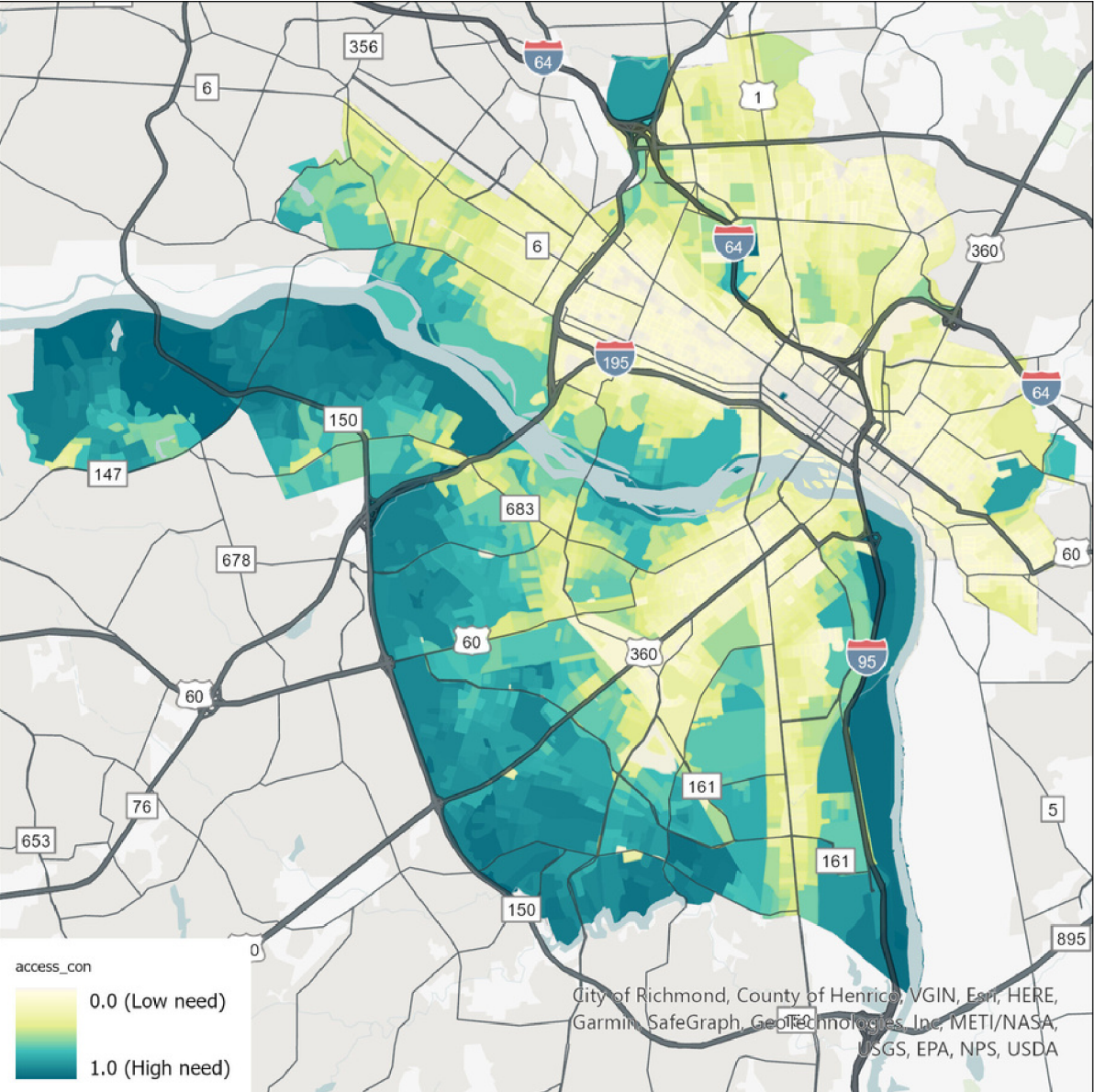


Equity Factor 3: Urban Renewal

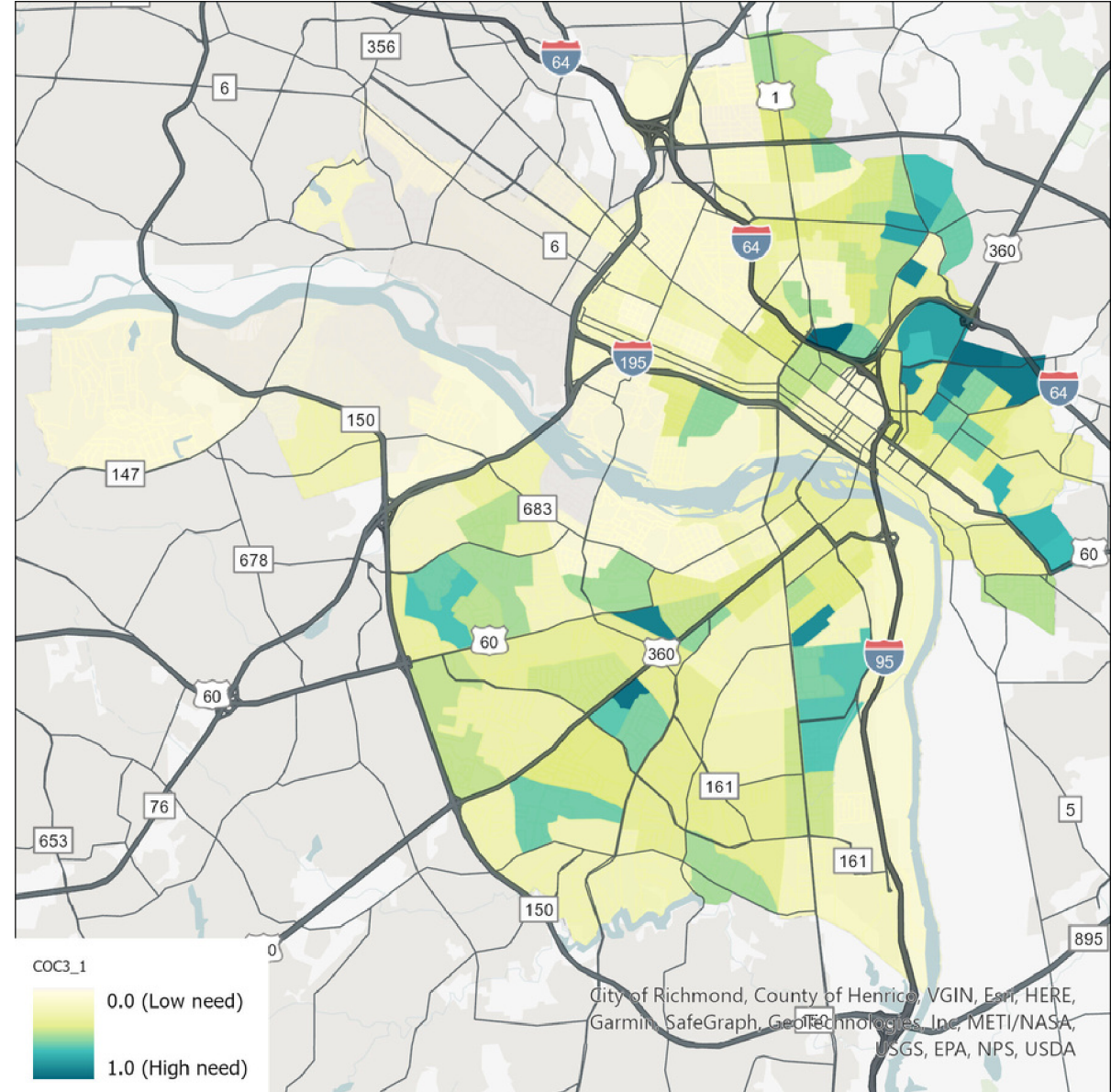
Improve neighborhood connectivity and revitalize the fabric of the communities negatively impacted by urban renewal.

Based on information from the Path to Equity Research, all seven Urban Renewal projects and two proposed C.D. Rehabilitation Projects are included as urban renewal areas.

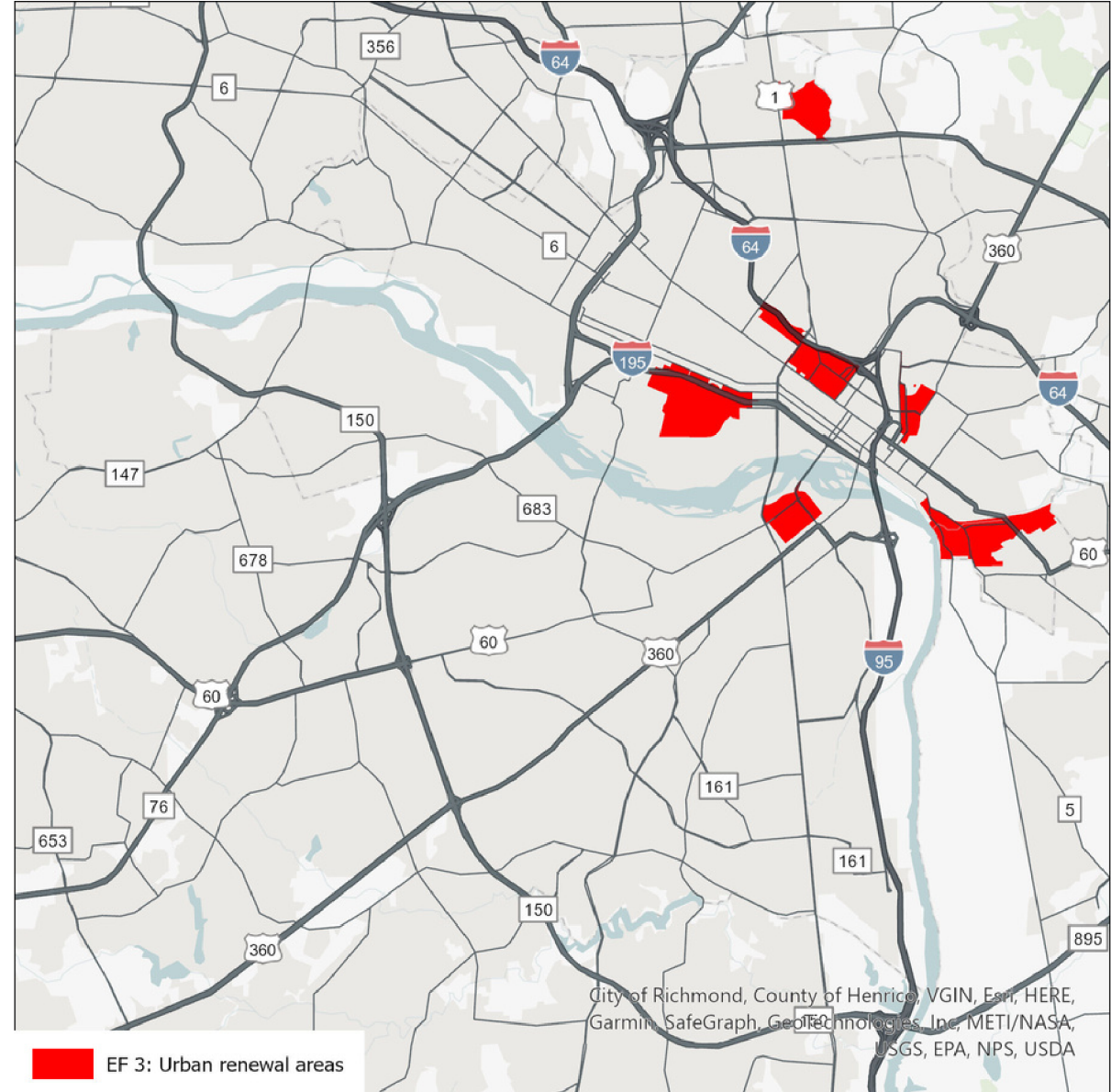
Access need



BIPOC, low-income, BIPOC renter



Urban renewal areas

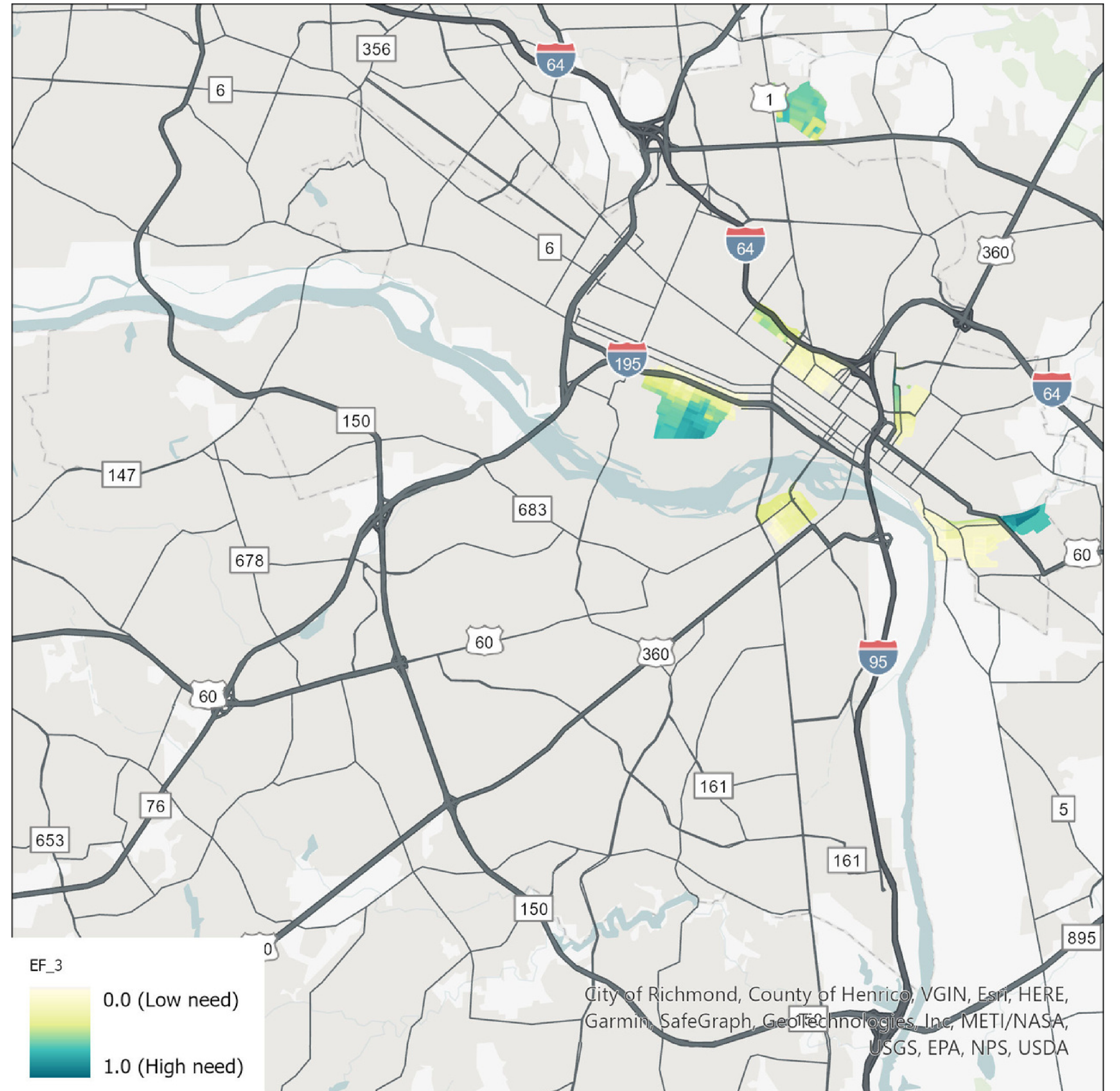


Equity Factor 3: Urban Renewal

Combined Map

Areas highlighted for EF3 are those:

- that were affected by urban renewal projects,
- that have
 - high concentrations of low income and BIPOC populations, and
 - low rates of BIPOC home ownership, and
- where connectivity to jobs, services, recreation, and education by walk, bike, or transit modes is degrading accessibility

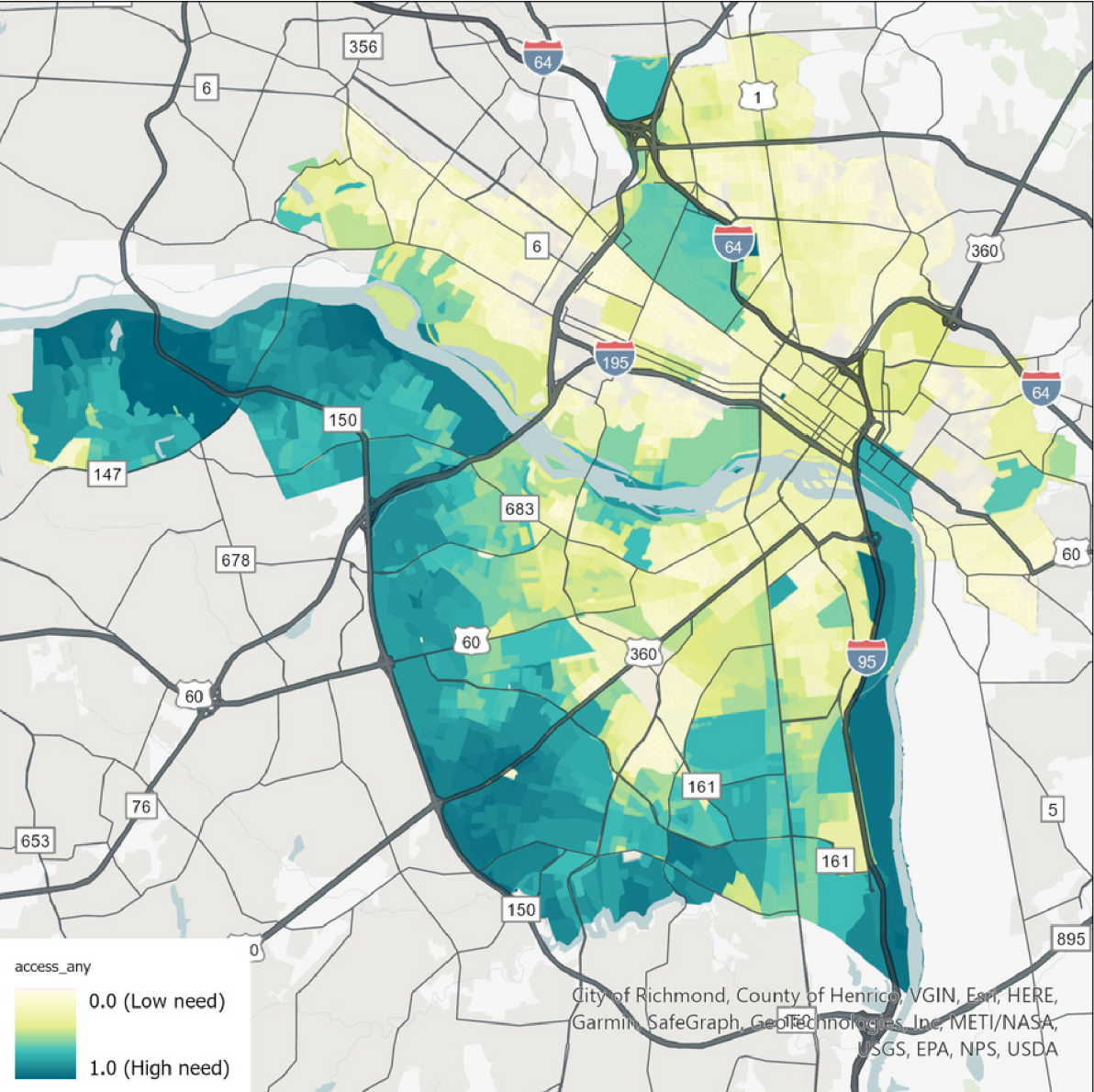


Equity Factor 4: Inner Ring Suburbs

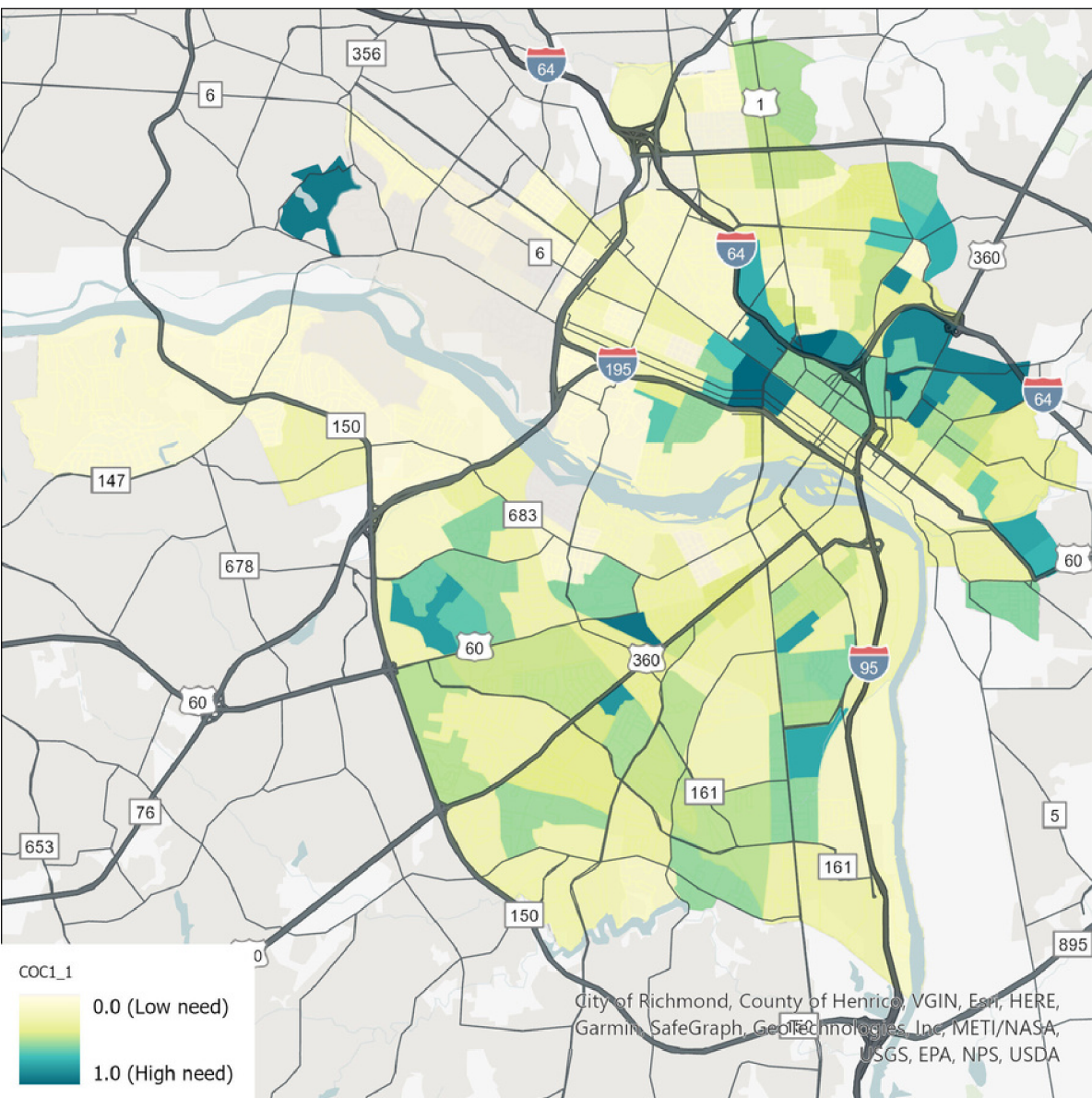
Improve access to housing, jobs, services, and education to address the isolation of low-income inner ring suburbs where families are pushed.

Per discussion from last work session, the streetcar neighborhoods were removed. Inner-ring suburbs are now focused on the post-war suburbs.

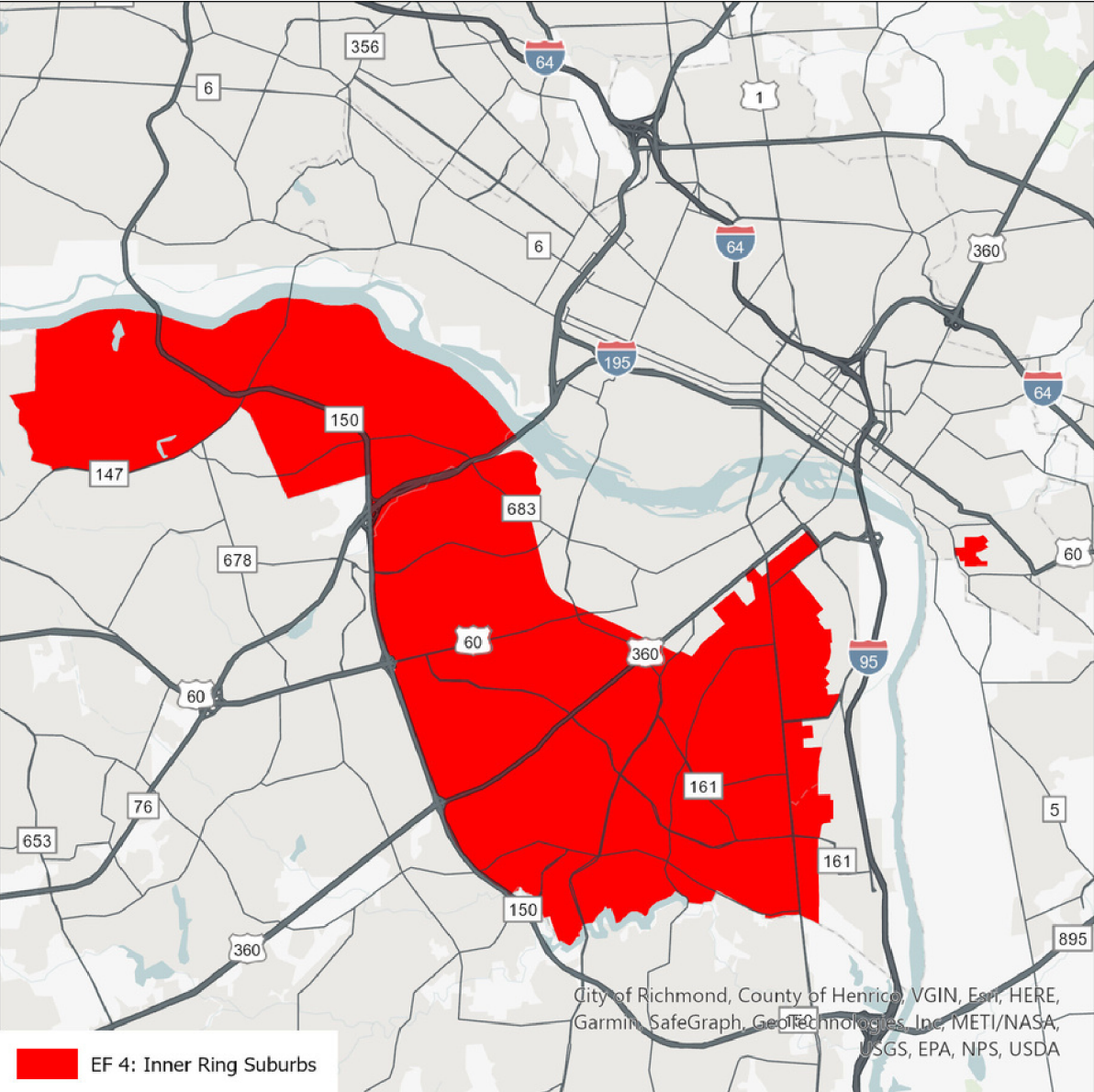
Access need



Low-income



Inner-ring suburbs

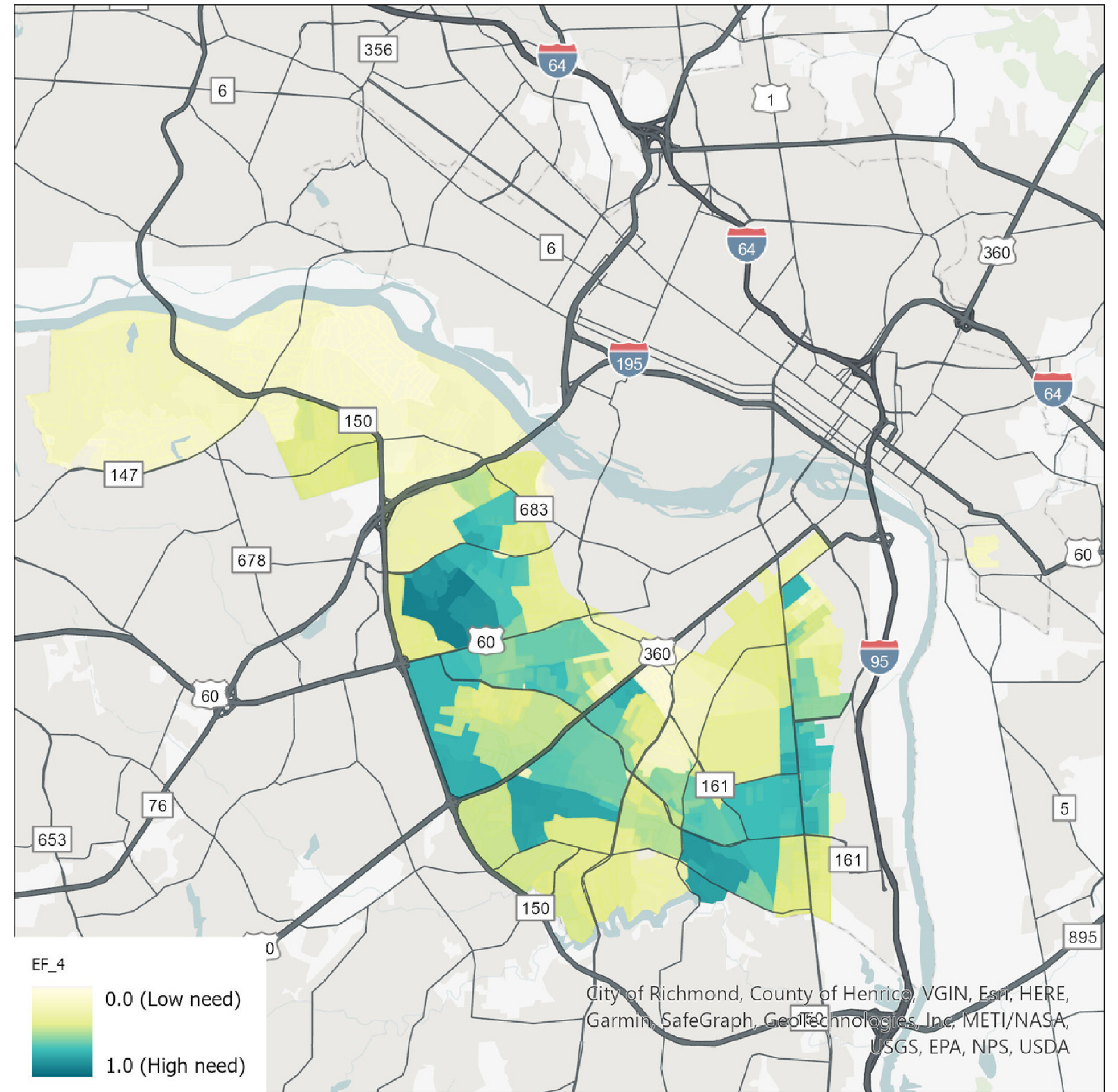


Equity Factor 4: Inner Ring Suburbs

Combined Map

Areas highlighted for EF4 are:

- inner ring suburbs, and
- low income areas, and
- where accessibility is underperforming in providing connections to jobs, services, recreation, and education by walk, bike, or transit modes



**Needs
Analysis
Initial
Results**



Today we will cover:

Investment need categories

Pedestrian



Bike



Transit



Freight



→ Land Use



Safety



→ Connectivity



Maintenance



→ Economic Development



Technology



Sustainability



Equity Factors

1

Improve access to housing, jobs, services, recreation, and education, addressing remaining inequities created by redlining.

2

Reconnect and revitalize communities to address inequities created by the highway system's dissection of neighborhoods.

3

Improve neighborhood connectivity and revitalize the fabric of the communities negatively impacted by urban renewal.

4

Improve access to housing, jobs, services, and education to address the isolation of low-income inner ring suburbs where families are pushed.

5

Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.

6

Equitably increase the safety and comfort of cyclists and pedestrians, connecting communities of concern to opportunities.

7

Improve reliability of transit and other non-car services to increase access and remove barriers to opportunities for communities of concern.

8

Prioritize the needs of socially vulnerable users and address climate and environmental equity as identified in RVA Green 2050.

9

Prioritize densely populated areas of communities of concern including communities of color, low-income communities, senior and limited mobility populations, families traveling with children, and at-risk youth.

10

Focus on improving climate resiliency for the most impacted communities.

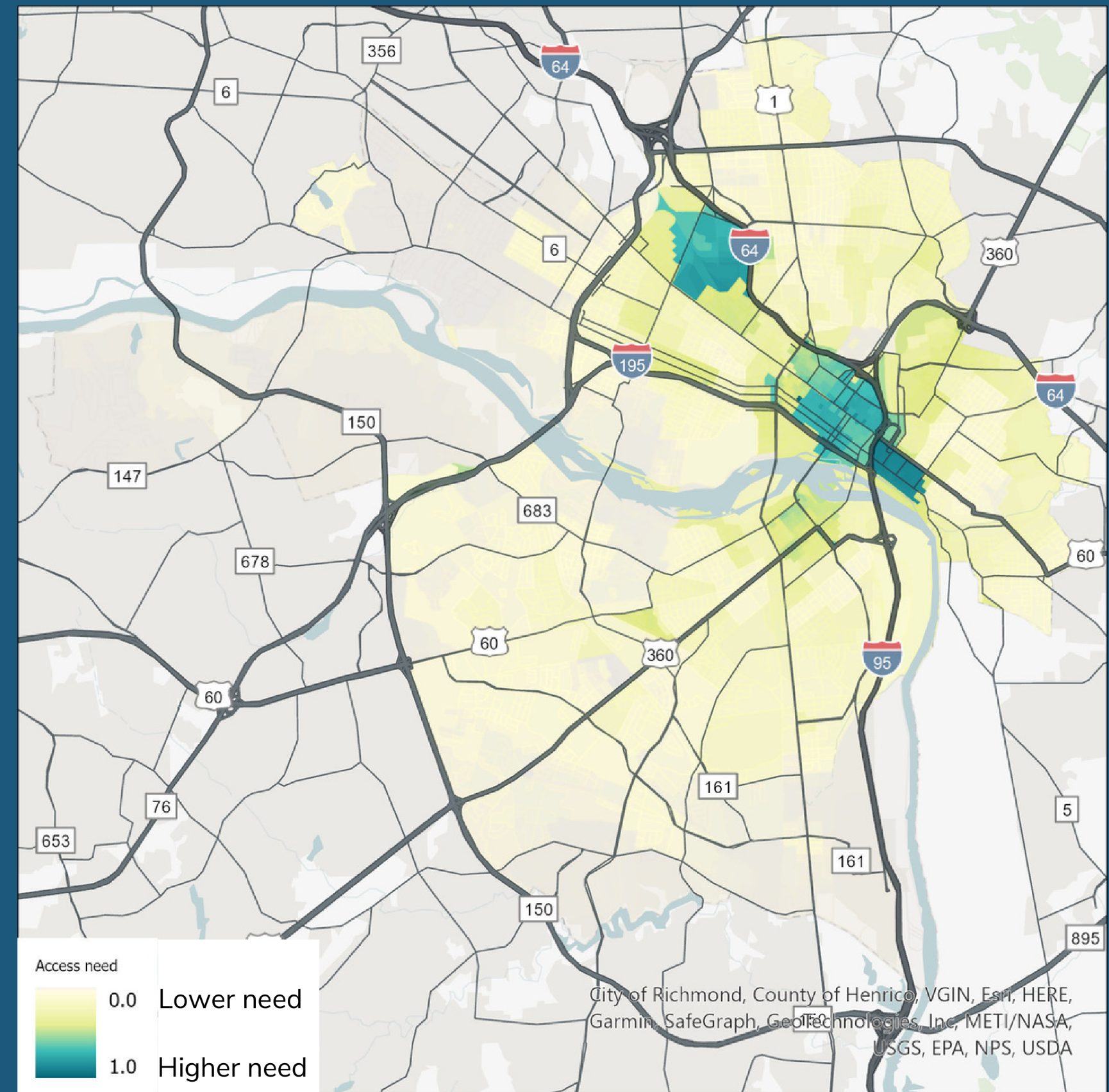
Investment Need Category 4: **LAND USE**

A land use need is revealed where:



Investment Need Category 4: **LAND USE**

Access to competitive relevant destinations by travel purpose by non-auto modes is inadequate or significantly lower than access to all destinations, with less tolerance for poor/underperforming accessibility in Richmond 300 Nodes

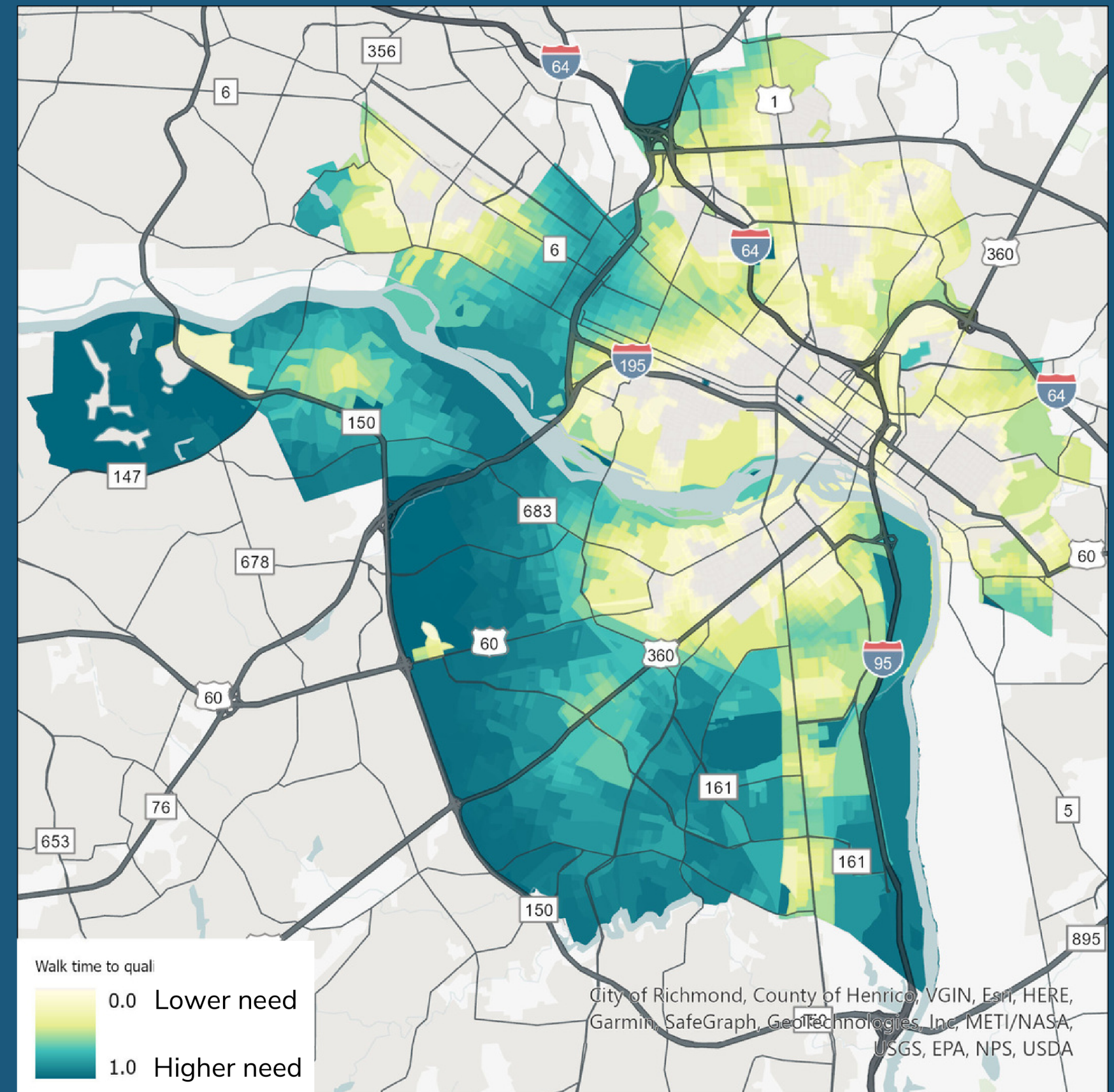


Composite index of competitive, relevant access to non-competitive, non-relevant access across walk, bike, and transit modes. Scores multiplied by 0.5 for blocks outside of the R300 nodes

Areas with high scores (closer to 1) have a mismatch between access to relevant competitive destinations and access to all destinations. These are areas where land use can have the greatest impact to realizing accessibility potential.

Investment Need Category 4: **LAND USE**

The minimum
walk time to
quality open
space exceeds
10 minutes



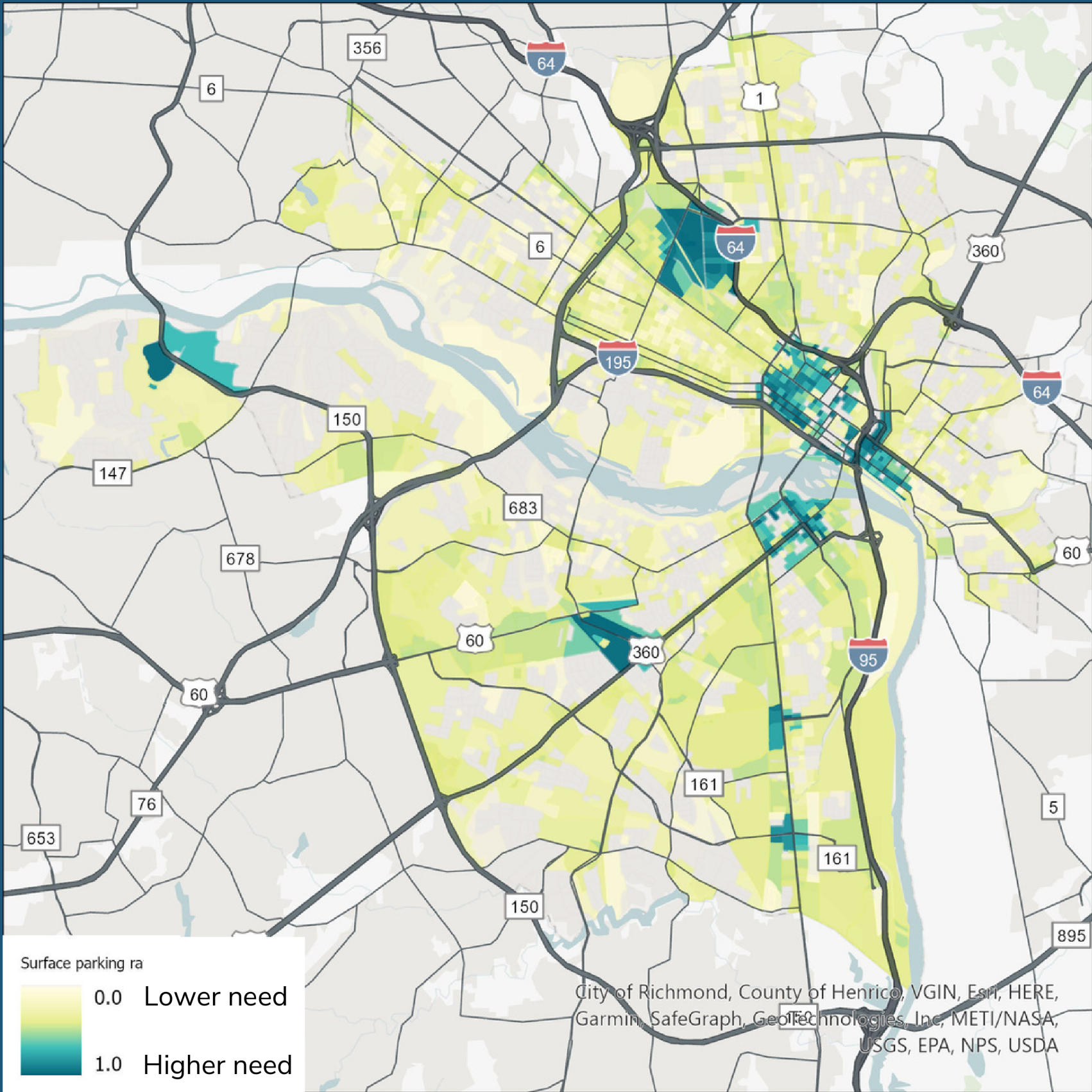
Walk time to nearest park or open spaces

Open space, neighborhood parks, mini parks, natural preservation areas, and playgrounds from COR parks shapefile

Investment Need Category 4:

LAND USE

A significant proportion of land area is devoted to surface parking with less tolerance for high proportions of surface parking in Richmond 300 Nodes

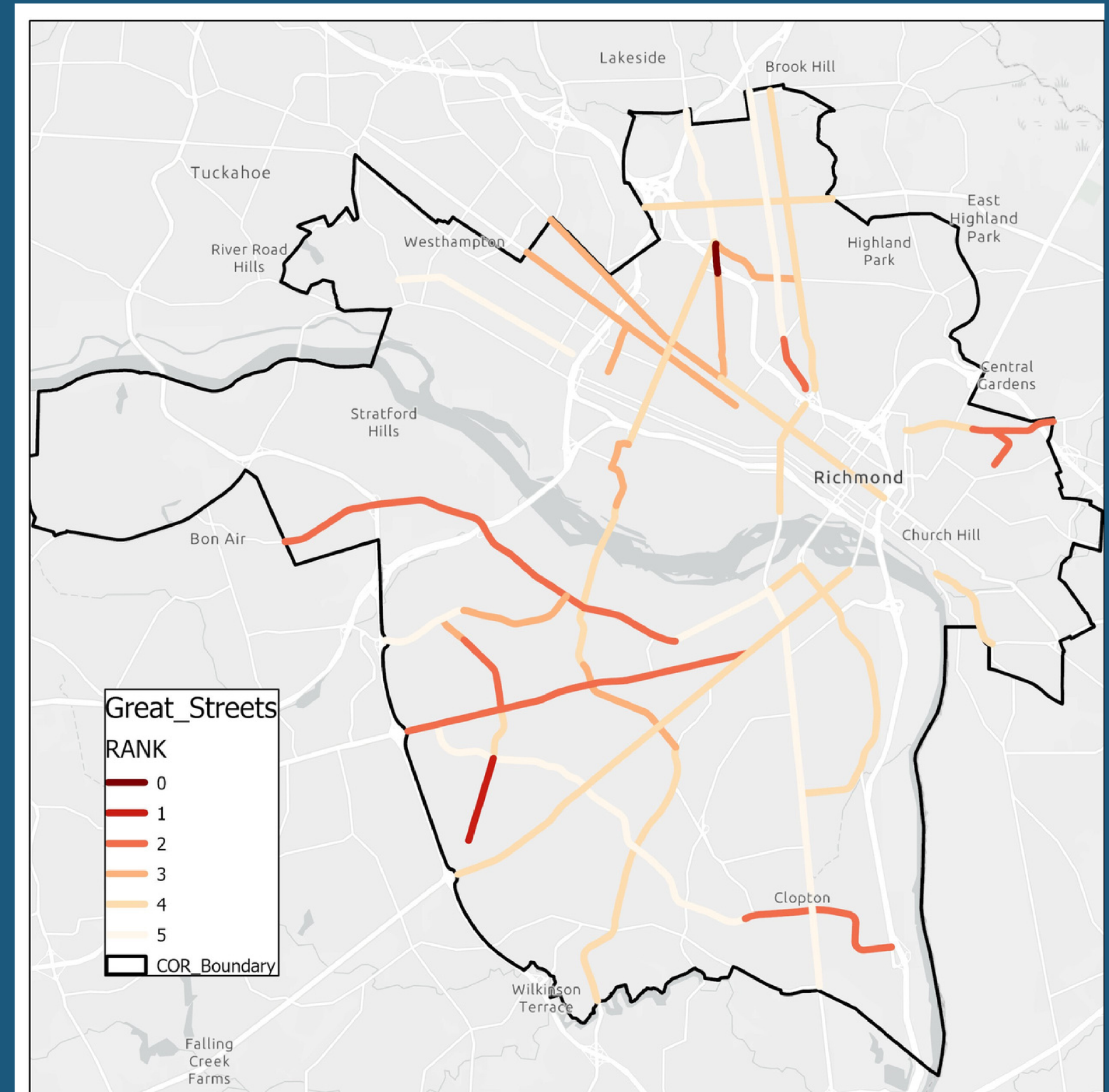


Percent of block area covered by parking. Scores multiplied by 0.5 for blocks outside of the R300 nodes

Investment Need Category 4:

LAND USE

A Great Street is underdeveloped to support Complete Streets policy



Great Streets data set plus sidewalks, crosswalks, transit stops, tree locations, and bike path infrastructure. Used a simple approach of assigning a point value for the existence of each element along each Great Street. The Rank number ranges 0-5, with 0 being the least complete and 5 being most Complete.

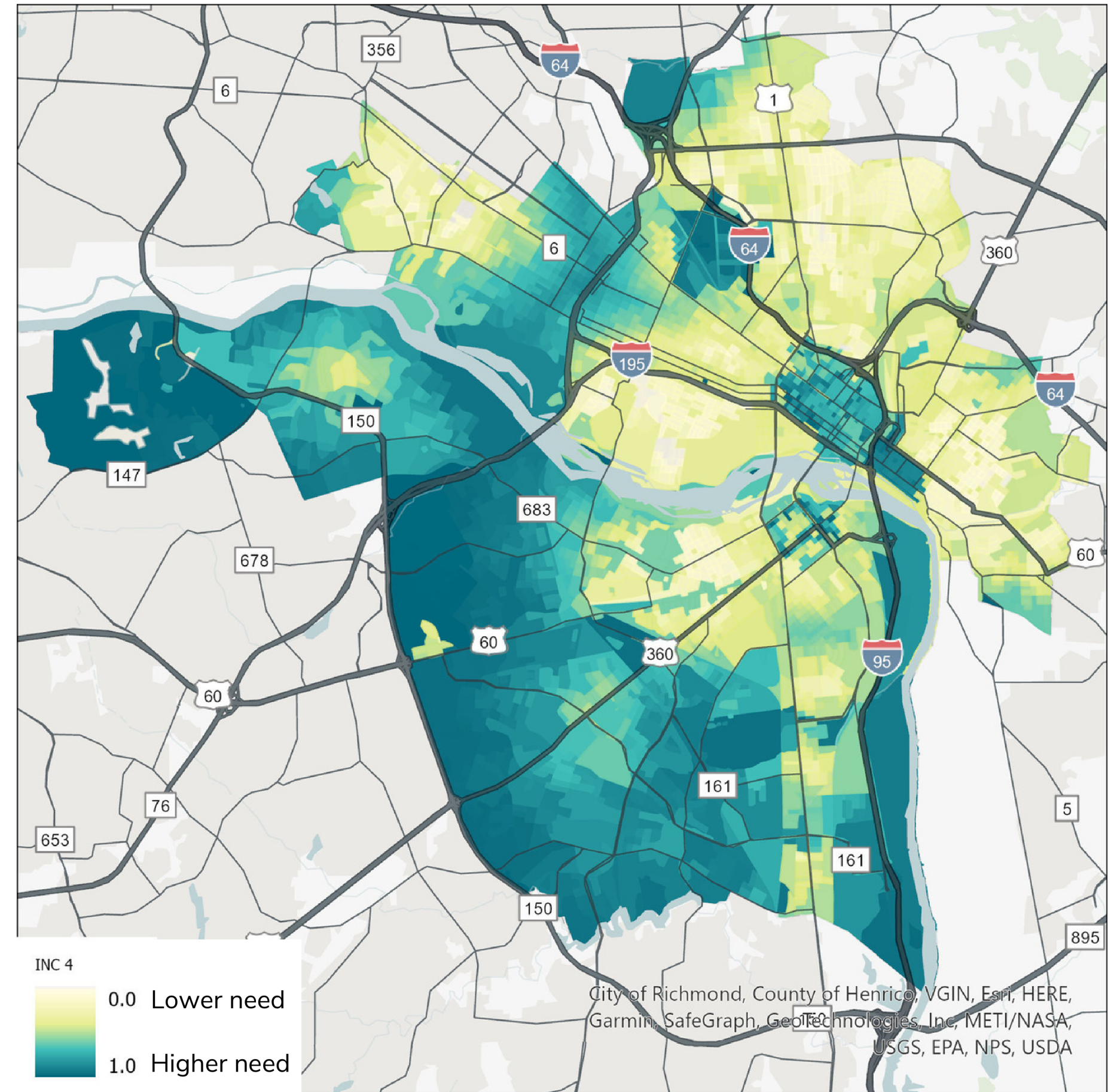
Investment Need Category 4:

LAND USE

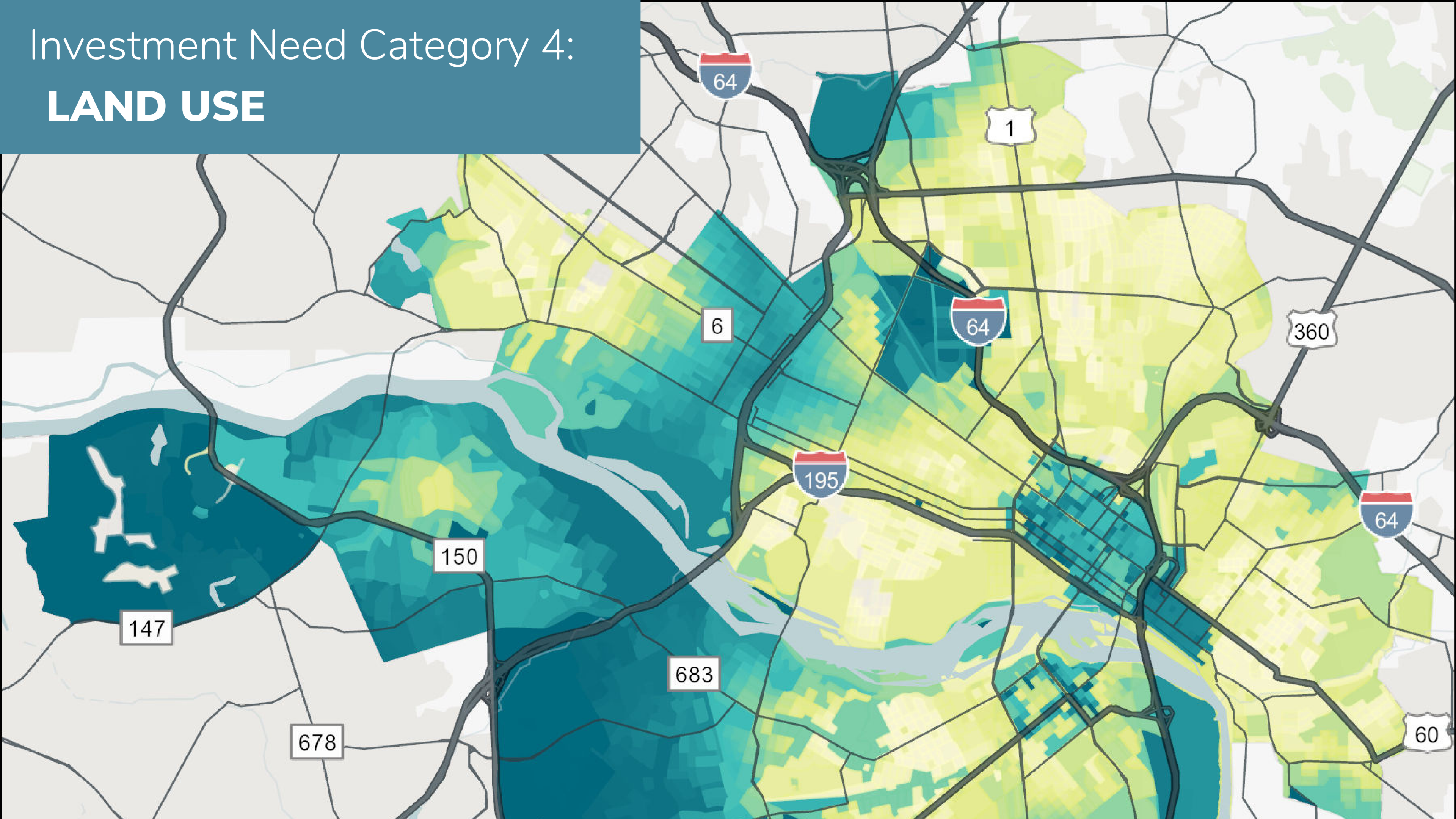
Combined Land Use Need Map

A land use need is revealed where:

- Access to competitive relevant destinations by travel purpose by non-auto modes is inadequate or significantly lower than access to all destinations, with less tolerance for poor/underperforming accessibility in Richmond 300 Nodes, or
- The minimum walk time to quality open space exceeds 10 minutes, or
- A significant proportion of land area is devoted to surface parking, with less tolerance for high proportions of surface parking in Richmond 300 Nodes, or
- A Great Street is underdeveloped to support Complete Streets policy



Investment Need Category 4: **LAND USE**



Investment Need Category 6: **CONNECTIVITY**

A connectivity need is revealed where:

Observed accessibility is significantly lower than potential accessibility under a well-connected network

OR

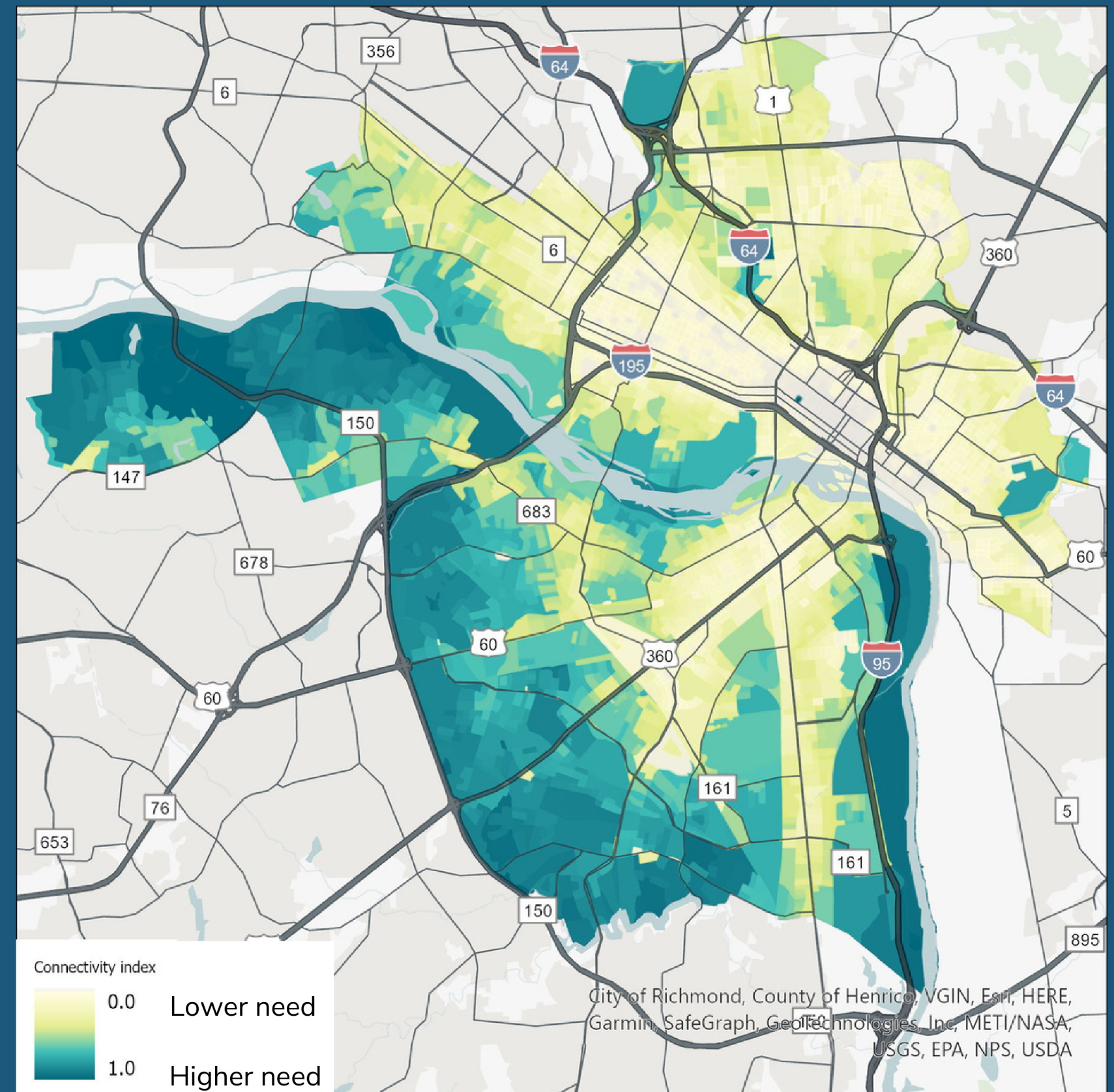
Observed trip-making appears to be circuitous or indirect

OR

Low/No inter-city rail or bus service is available during peak hours within a 15 minute trip

Investment Need Category 6: **CONNECTIVITY**

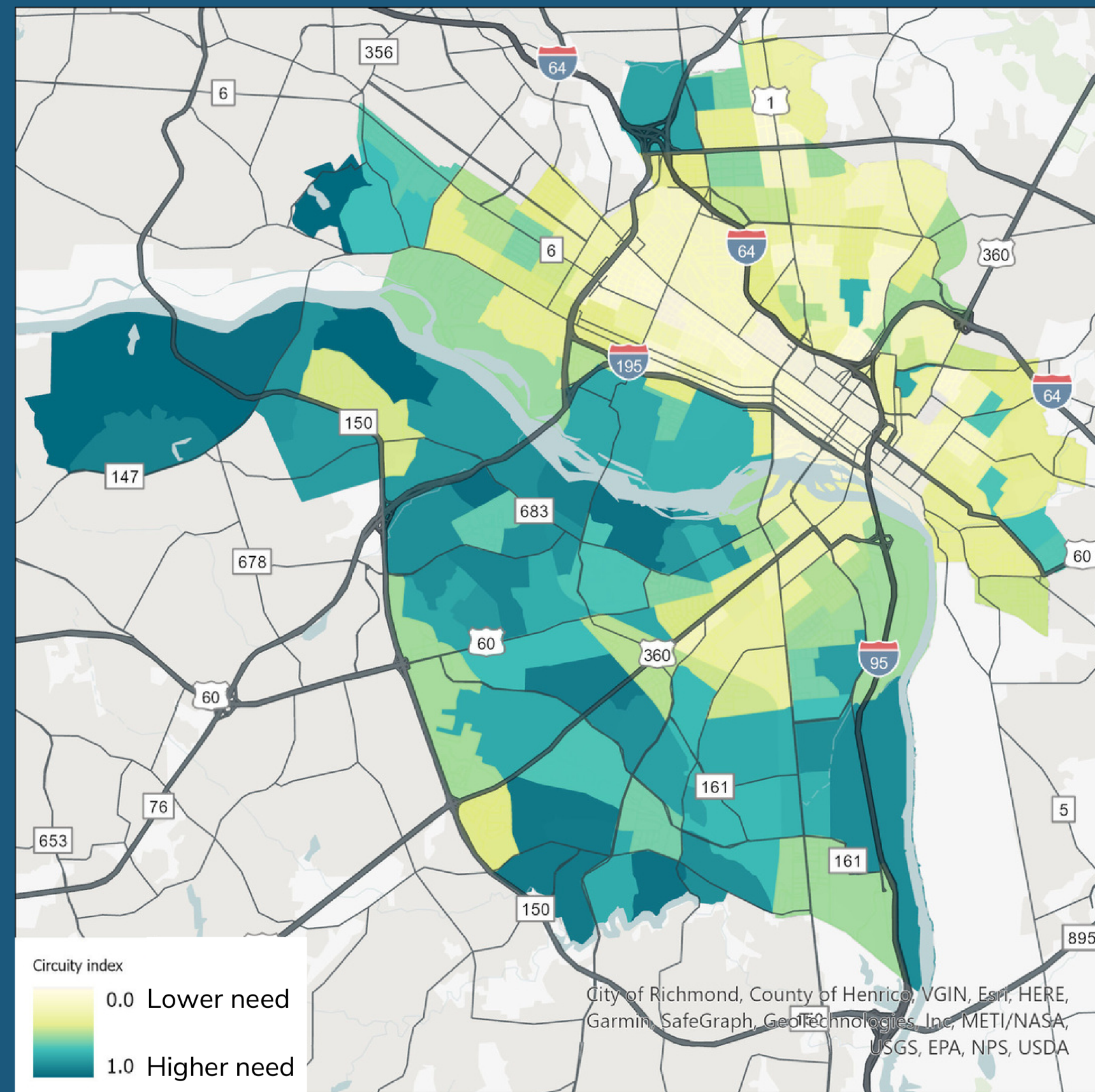
Observed accessibility is significantly lower than potential accessibility under a well-connected network



Composite connectivity index across walk, bike, and transit accessibility

Investment Need Category 6: **CONNECTIVITY**

Observed trip-making
appears to be circuitous
or indirect

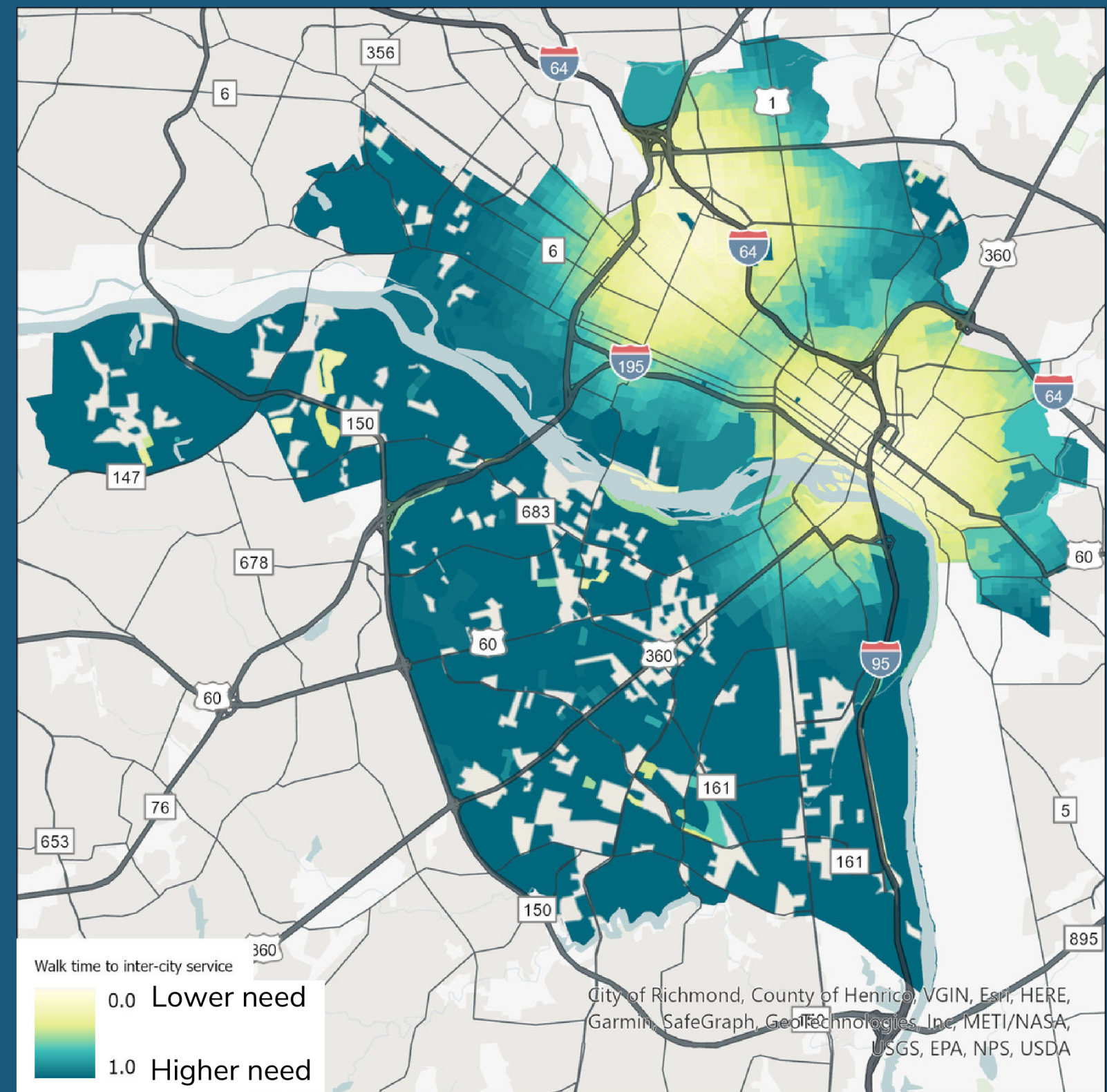


Circuity index of non-motorized trips from each block group

Investment Need Category 6:

CONNECTIVITY

Low/No inter-city rail or
bus service is available
during peak hours
within a 15 minute trip



Walk time to the nearest inter-city travel hub

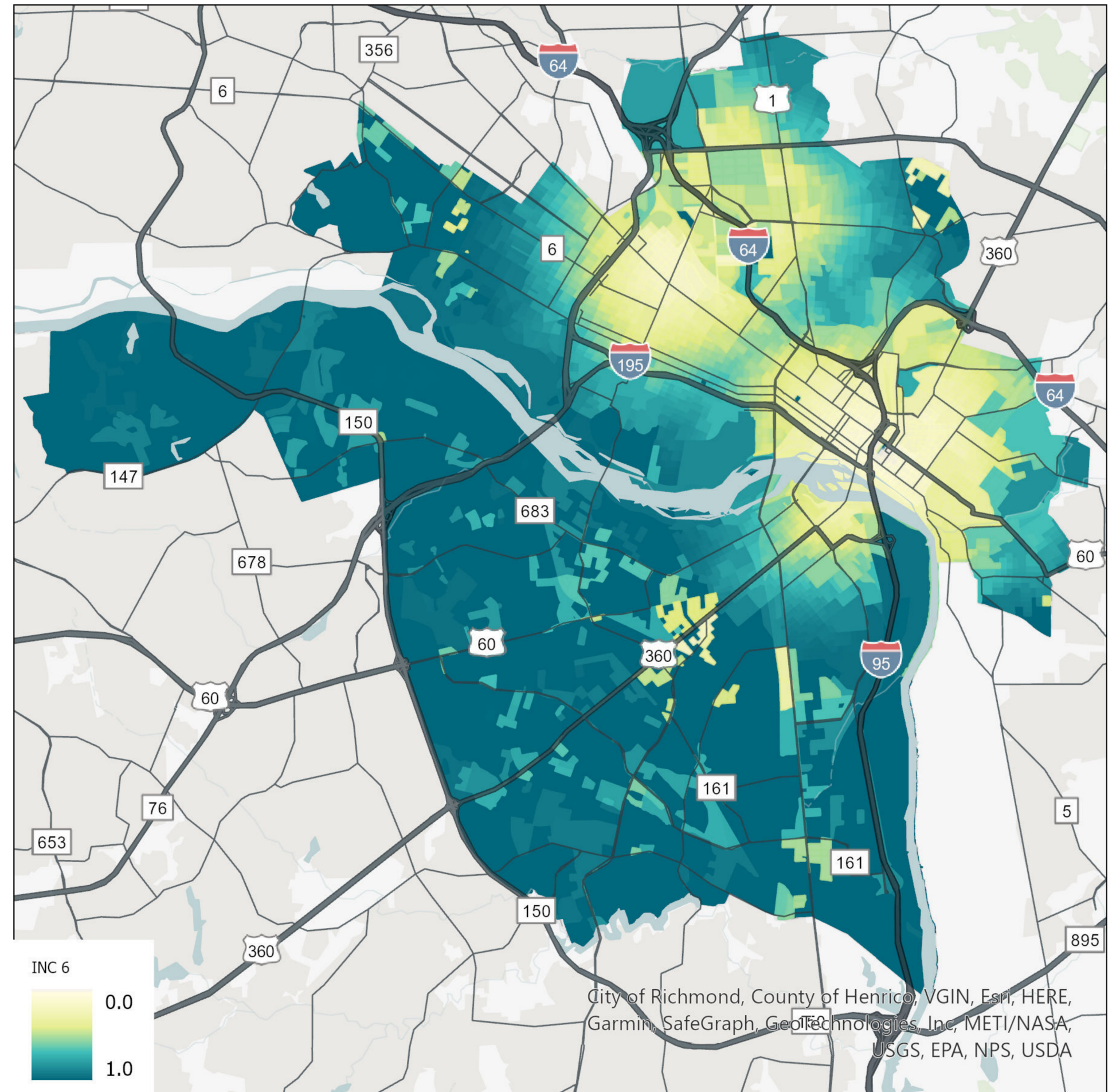
Investment Need Category 6:

CONNECTIVITY

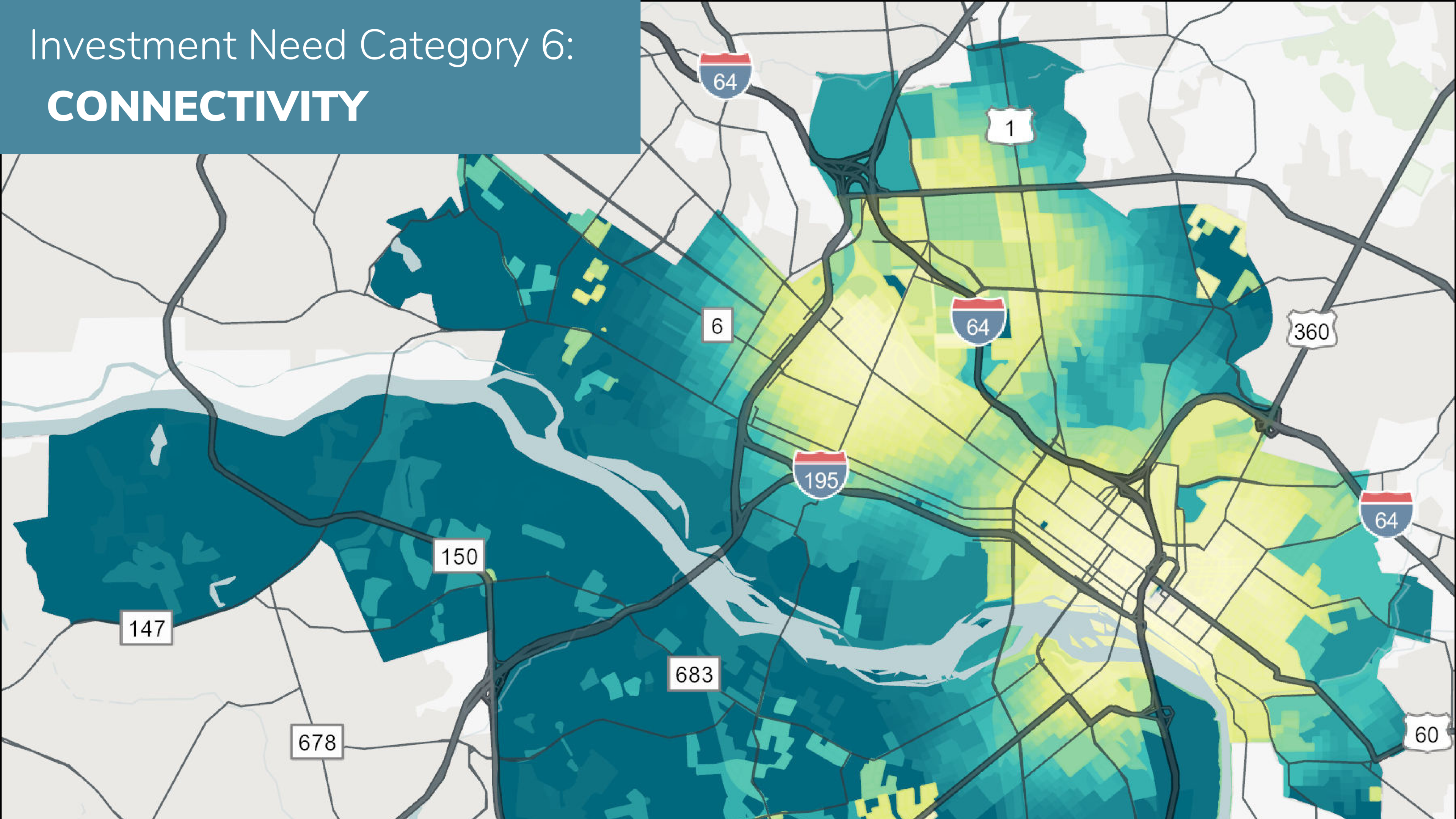
Combined Connectivity Need Map

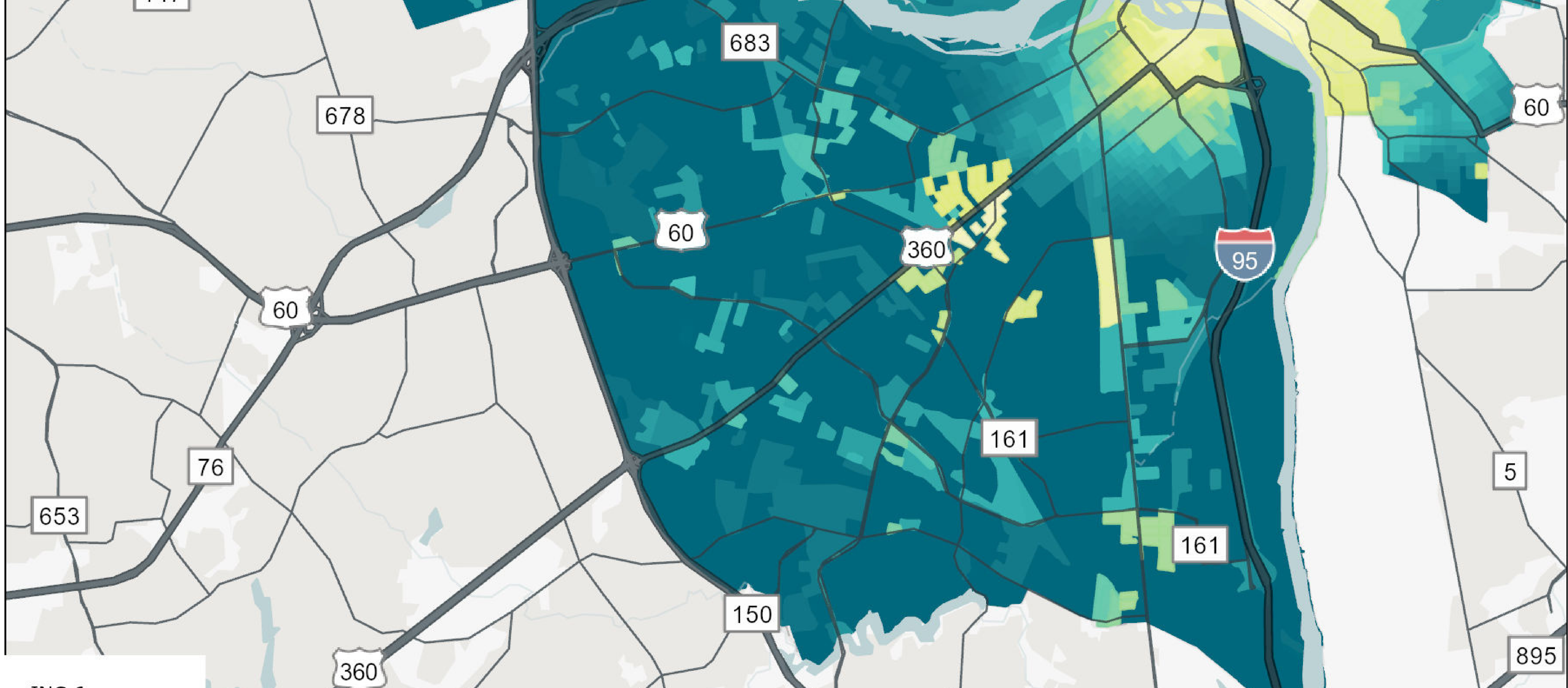
A connectivity need is revealed where:

- Observed accessibility is significantly lower than potential accessibility under a well-connected network, or
- Observed trip-making appears to be circuitous or indirect, or
- Low/No inter-city rail or bus service is available during peak hours within a 15 minute trip



Investment Need Category 6: **CONNECTIVITY**





Investment Need Category 6:
CONNECTIVITY

City of Richmond, County of Henrico, VGIN, Esri, HERE,
Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA,
USGS, EPA, NPS, USDA

Investment Need Category 8: **ECONOMIC DEVELOPMENT**

An economic development need is revealed where:

Access to relevant jobs is reduced by lack of proximal employment destinations in Enterprise Zones

OR

Access to relevant retail destinations is reduced by lack of proximal retail destinations in Enterprise Zones

OR

The Development Potential Ratio is below 2.0

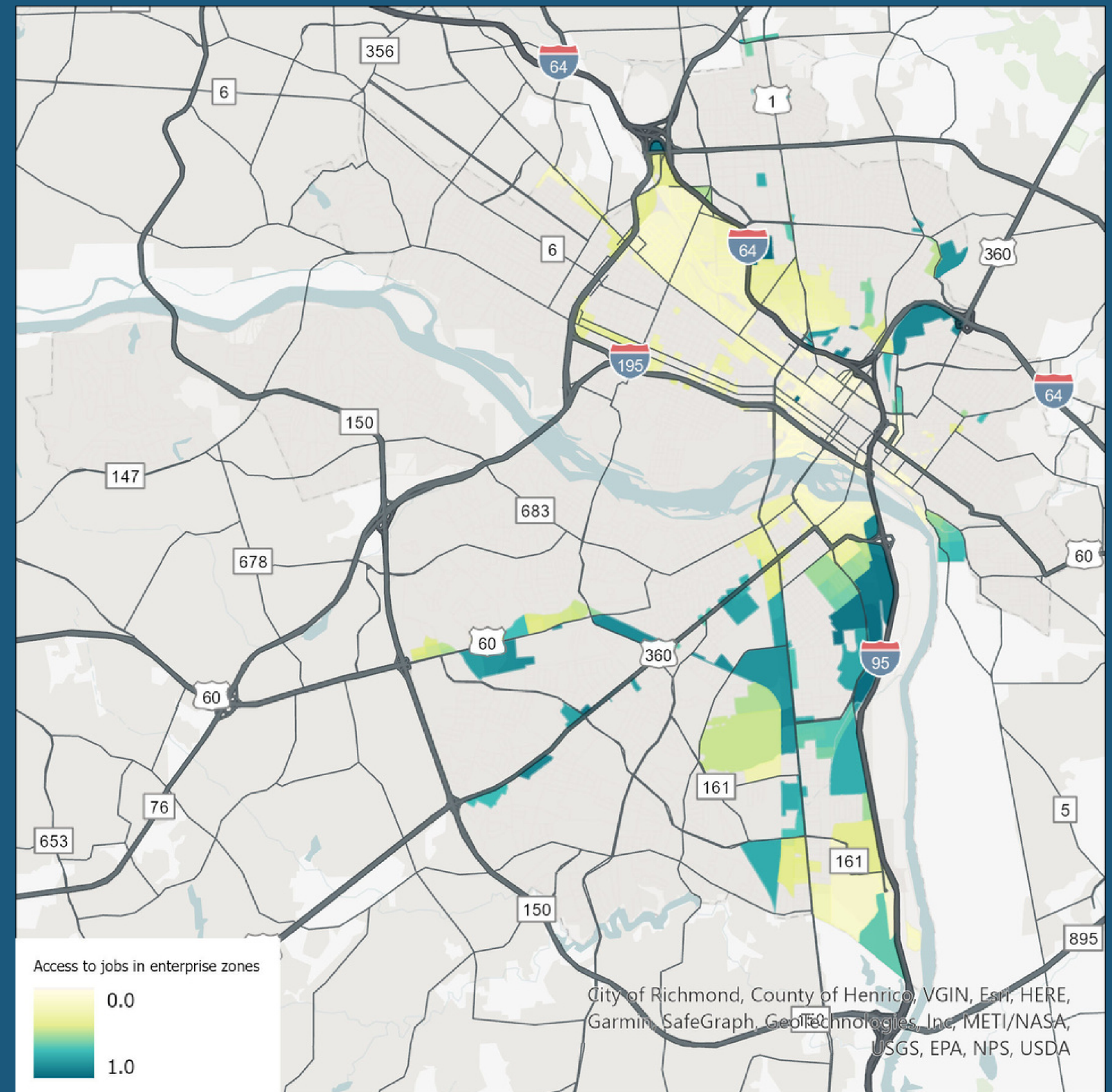
OR

The Market Value Analysis categorized the area as lower market value (Market Categories G, H, or I)

Investment Need Category 8:

ECONOMIC DEVELOPMENT

Access to relevant
jobs is reduced by
lack of proximal
employment
destinations in
Enterprise Zones

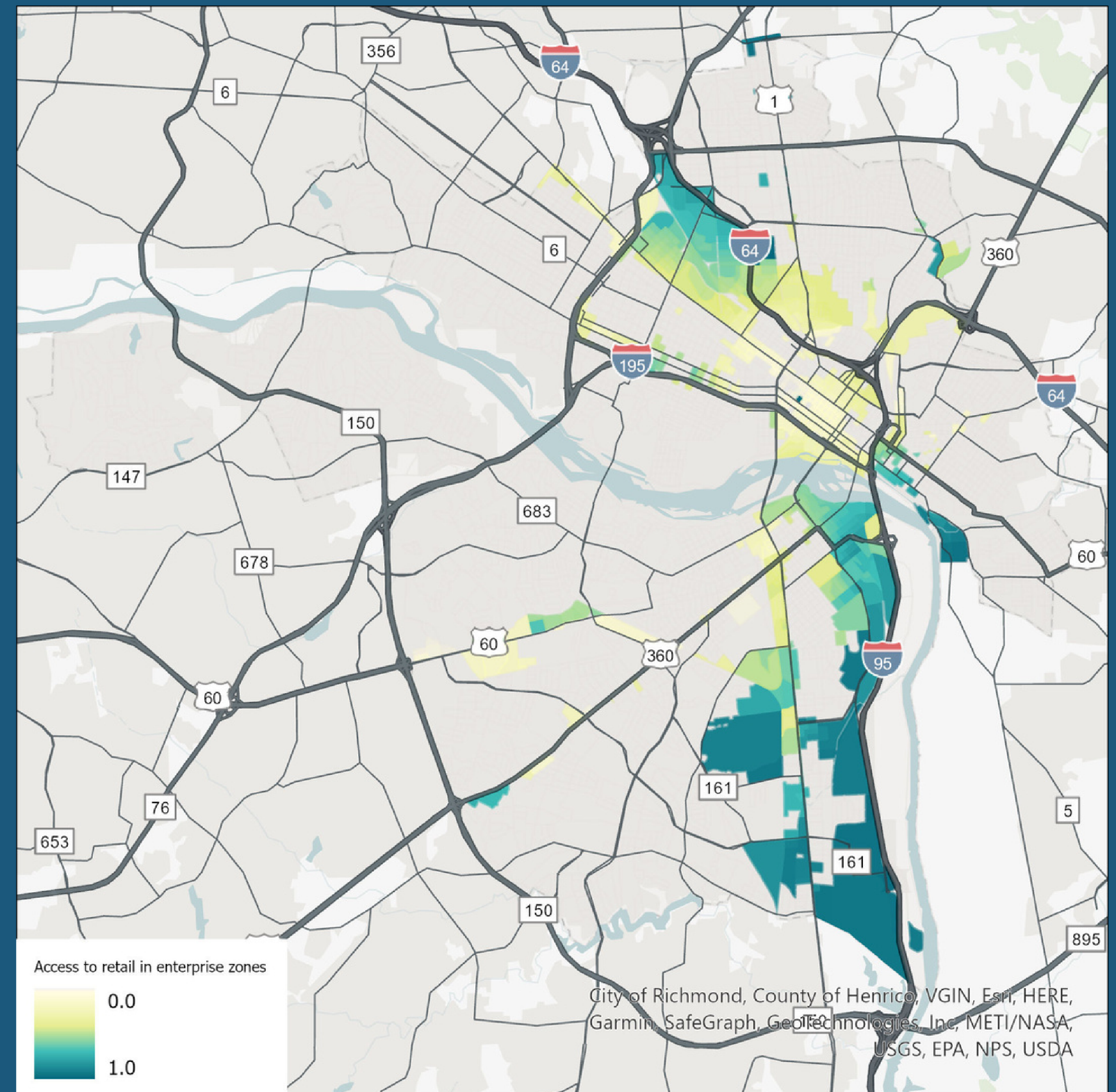


Competitive, relevance weighted walk access to jobs, cookie-cuttered to enterprise zones

Investment Need Category 8:

ECONOMIC DEVELOPMENT

Access to relevant
retail destinations is
reduced by lack of
proximal retail
destinations in
Enterprise Zones

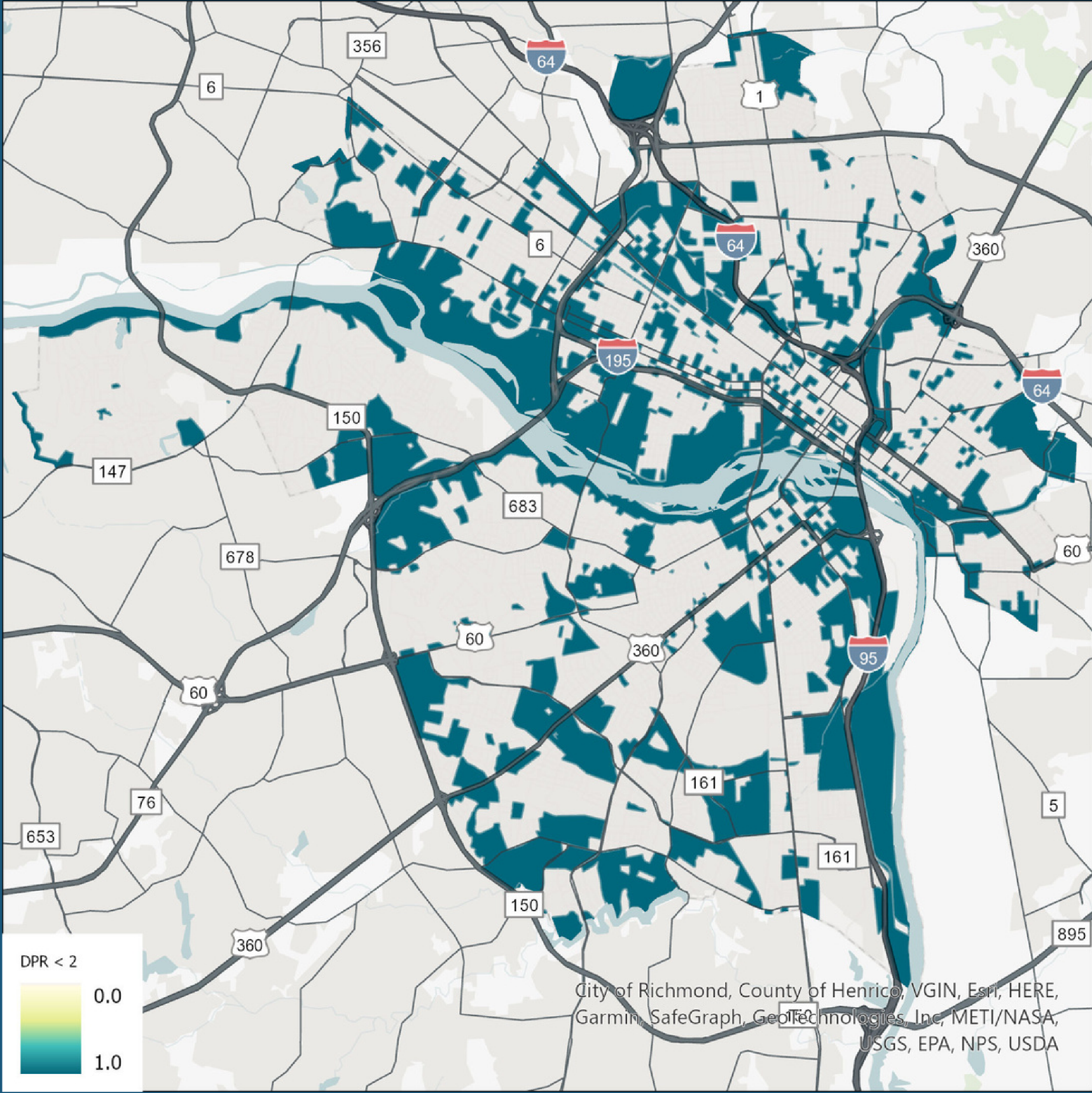


Competitive, relevance weighted walk access to retail, cookie-cuttered to enterprise zones

Investment Need Category 8:

ECONOMIC DEVELOPMENT

The Development
Potential Ratio is
below 2.0

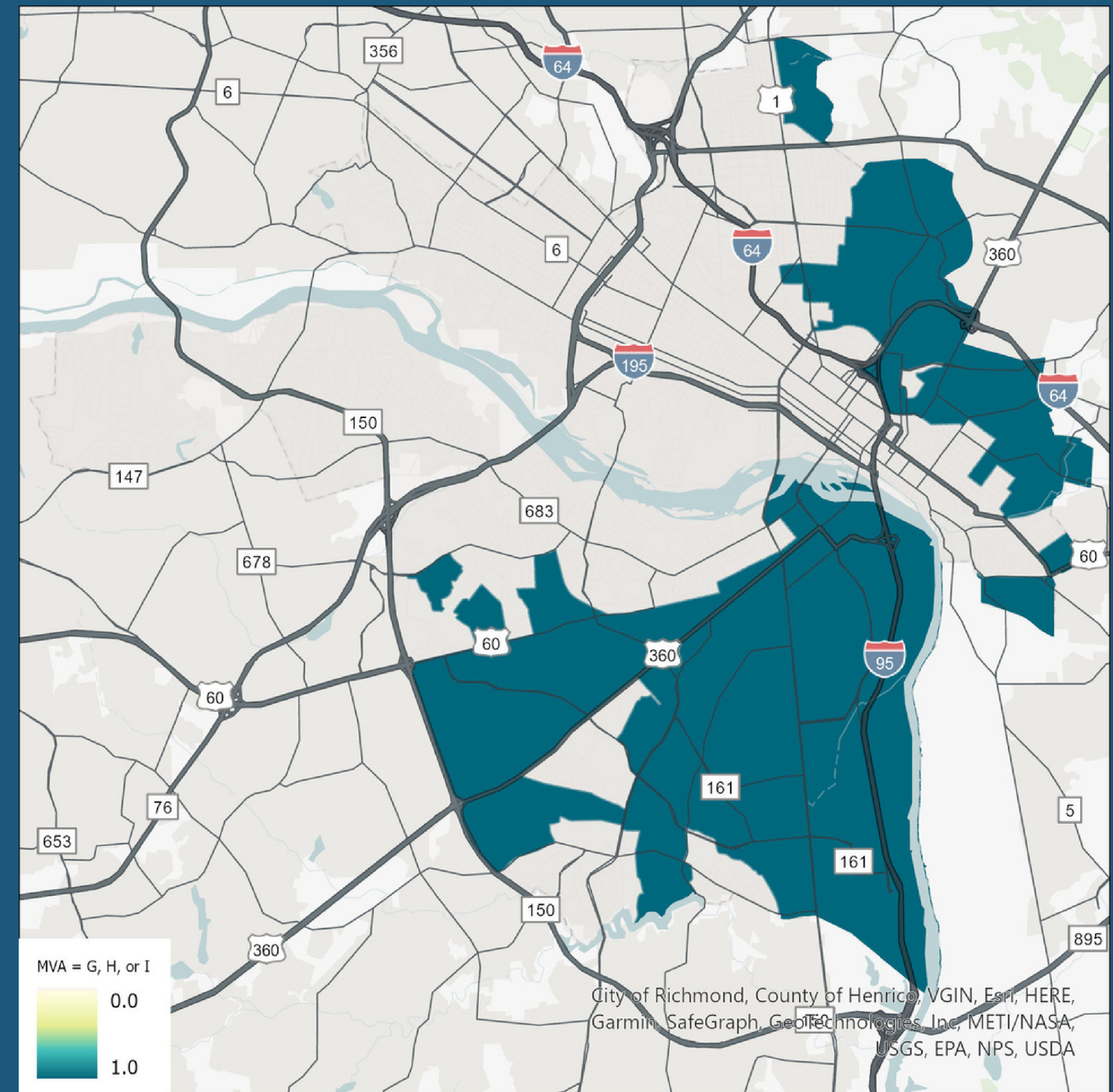


Blocks where the area-weighted average of parcel Development Potential Ratios is less than 2

Investment Need Category 8:

ECONOMIC DEVELOPMENT

The Market Value
Analysis
categorized the
area as lower
market value
(Market Categories
G, H, or I)



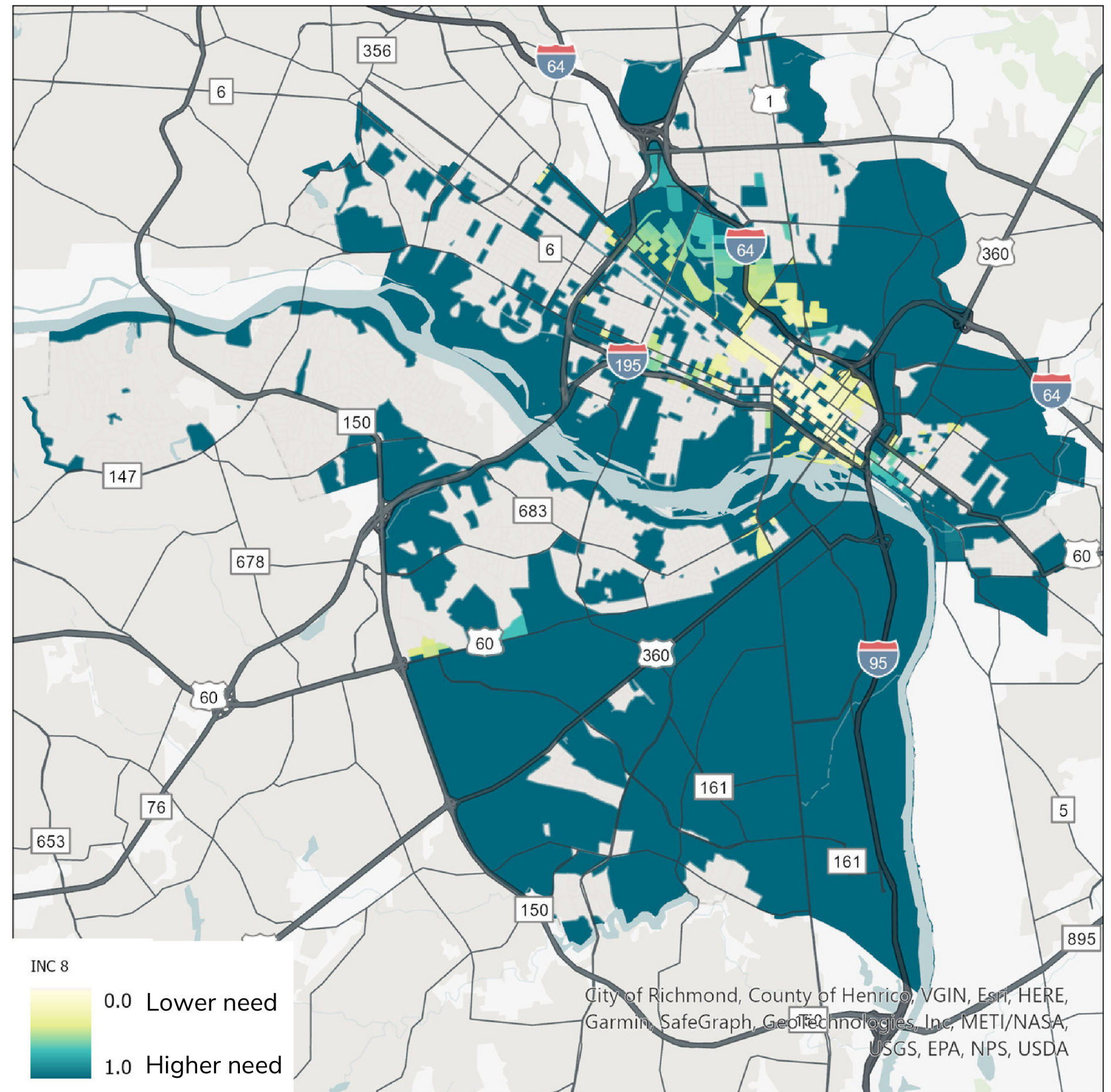
Blocks where the market value analysis categorizes the zone as G, H, or I

Investment Need Category 8: **ECONOMIC DEVELOPMENT**

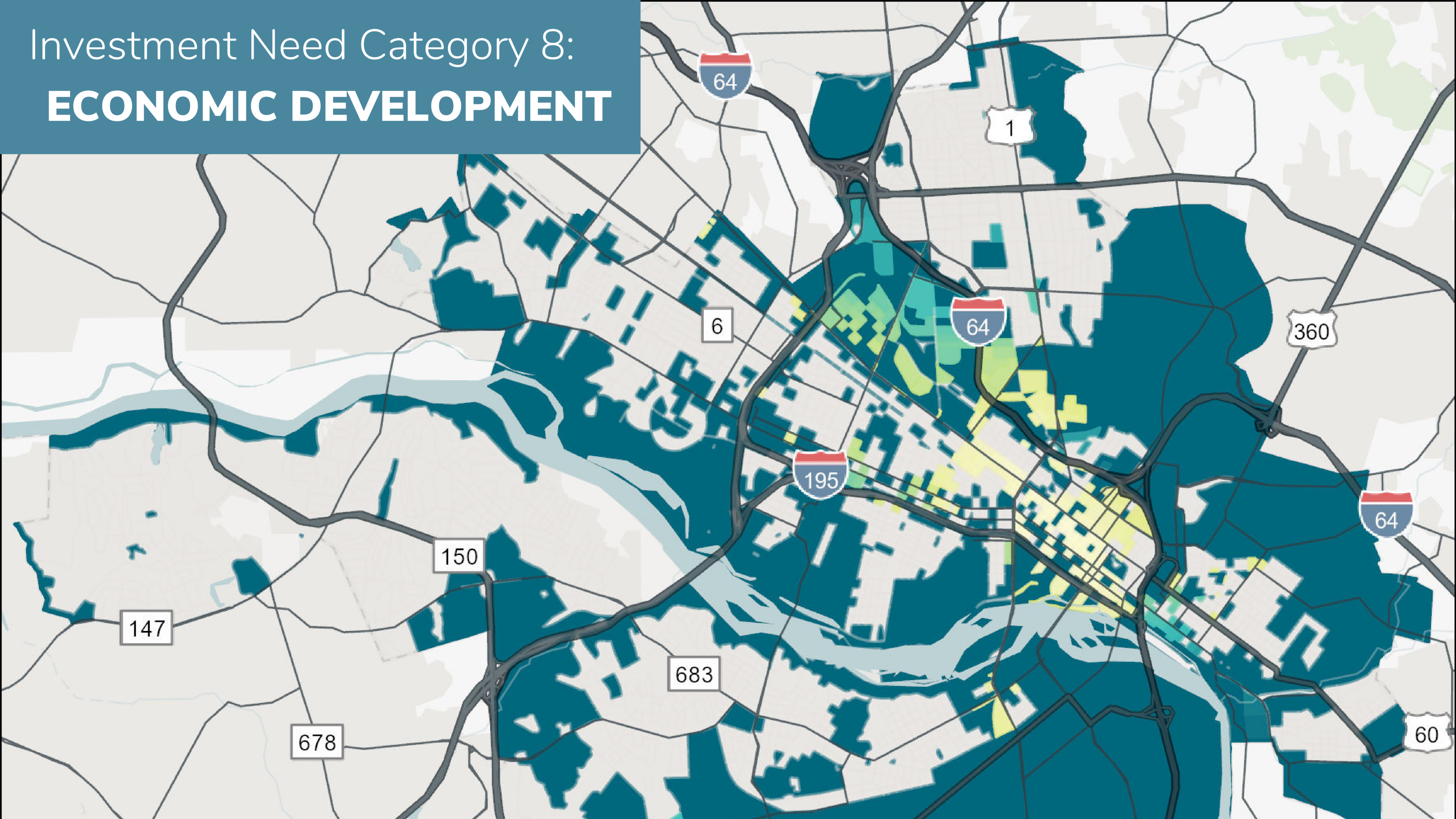
Combined Economic Development Need Map

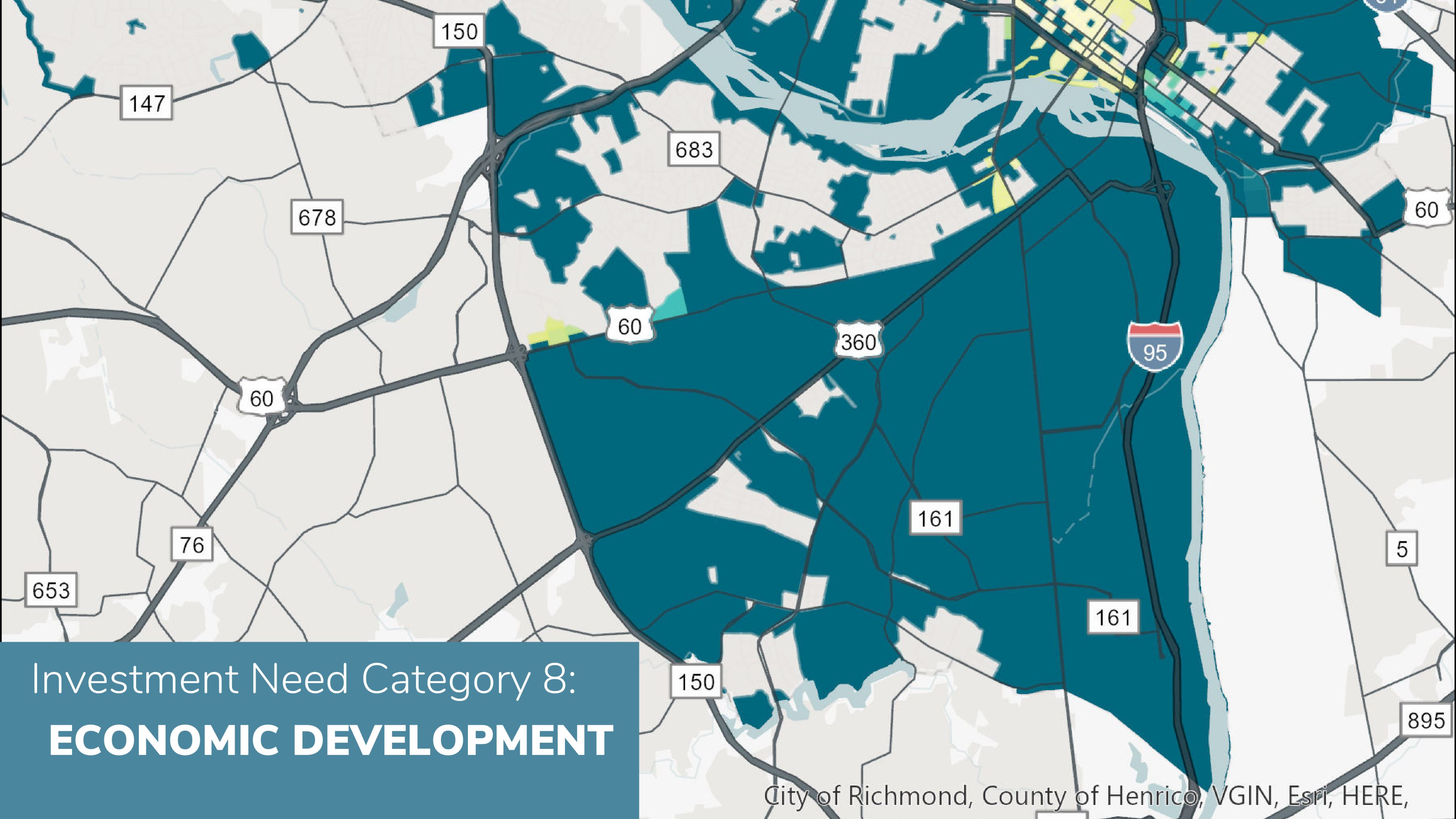
An economic development need is revealed where:

- Access to relevant jobs is reduced by lack of proximal employment destinations in Enterprise Zones, or
- Access to relevant retail destinations is reduced by lack of proximal retail destinations in Enterprise Zones, or
- The Development Potential Ratio is below 2.0, or
- The Market Value Analysis categorized the area as lower market value (Market Categories G, H, or I)



Investment Need Category 8:
ECONOMIC DEVELOPMENT



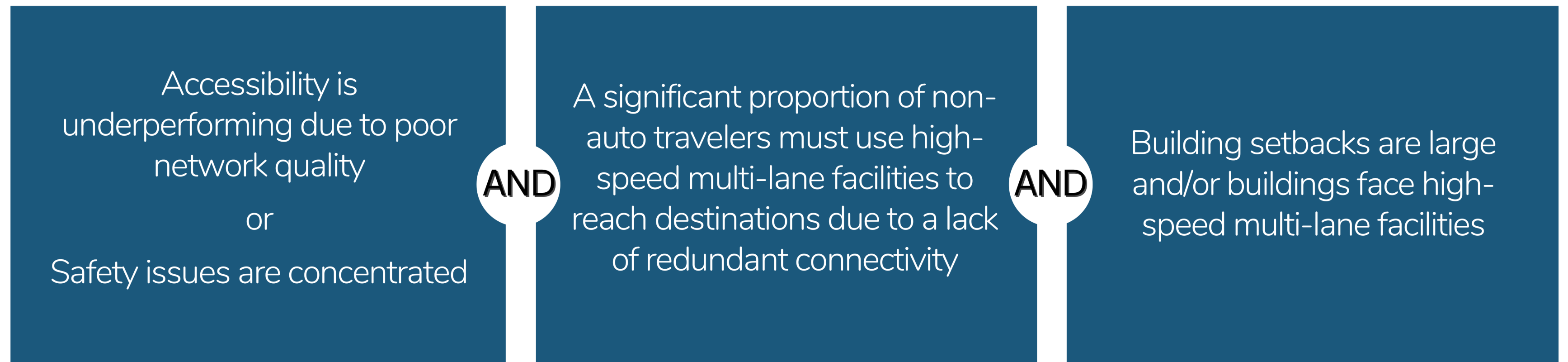


Investment Need Category 8:
ECONOMIC DEVELOPMENT

Equity Factor 5

Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.

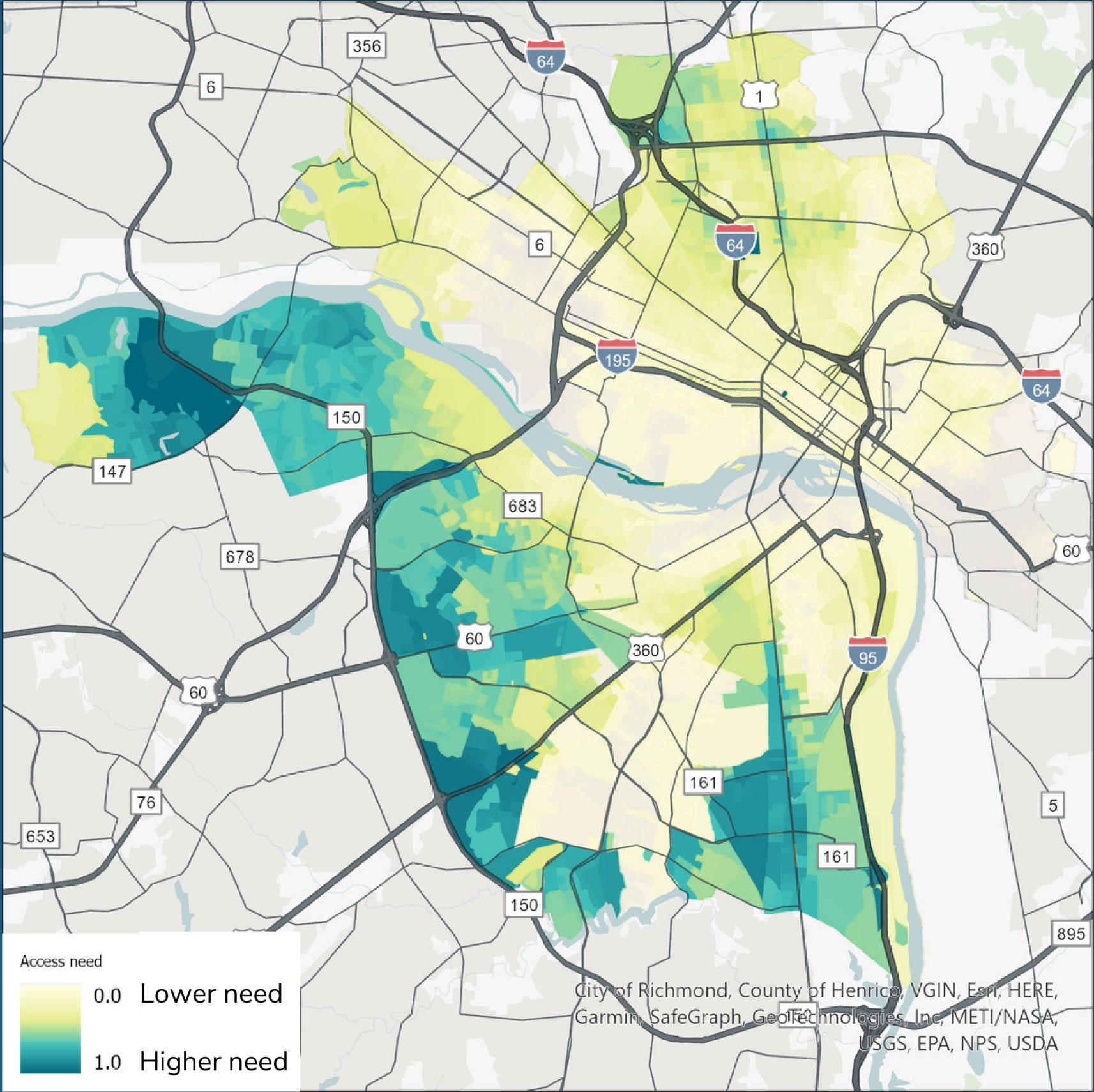
Areas highlighted for EF5 are those where:



Equity Factor 5

Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.

Accessibility is underperforming due to poor network quality
or
Safety issues are concentrated



Composite quality of service index across walk, bike, and transit accessibilities

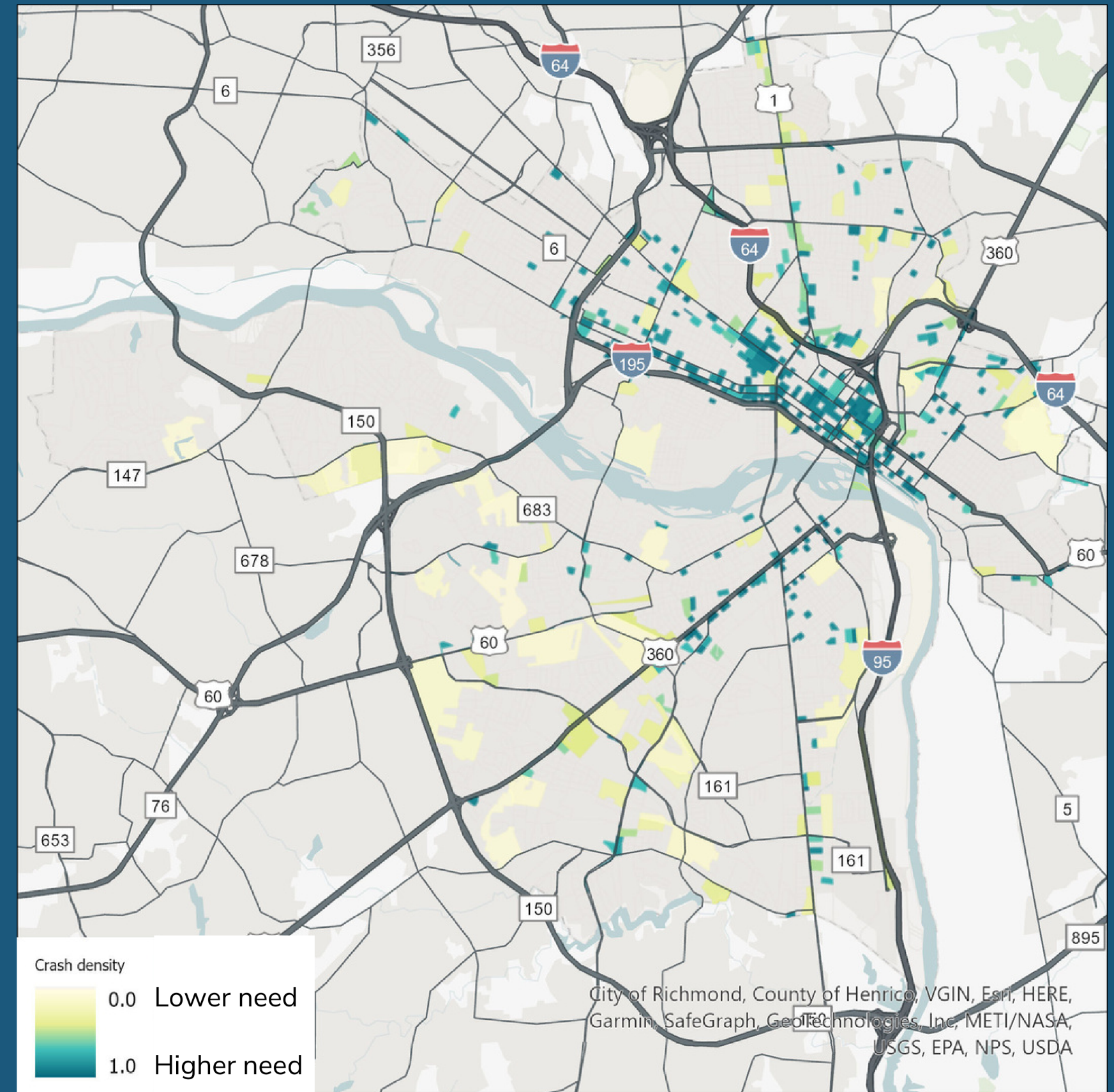
Equity Factor 5

Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.

Accessibility is underperforming
due to poor network quality

or

**Safety issues are
concentrated**

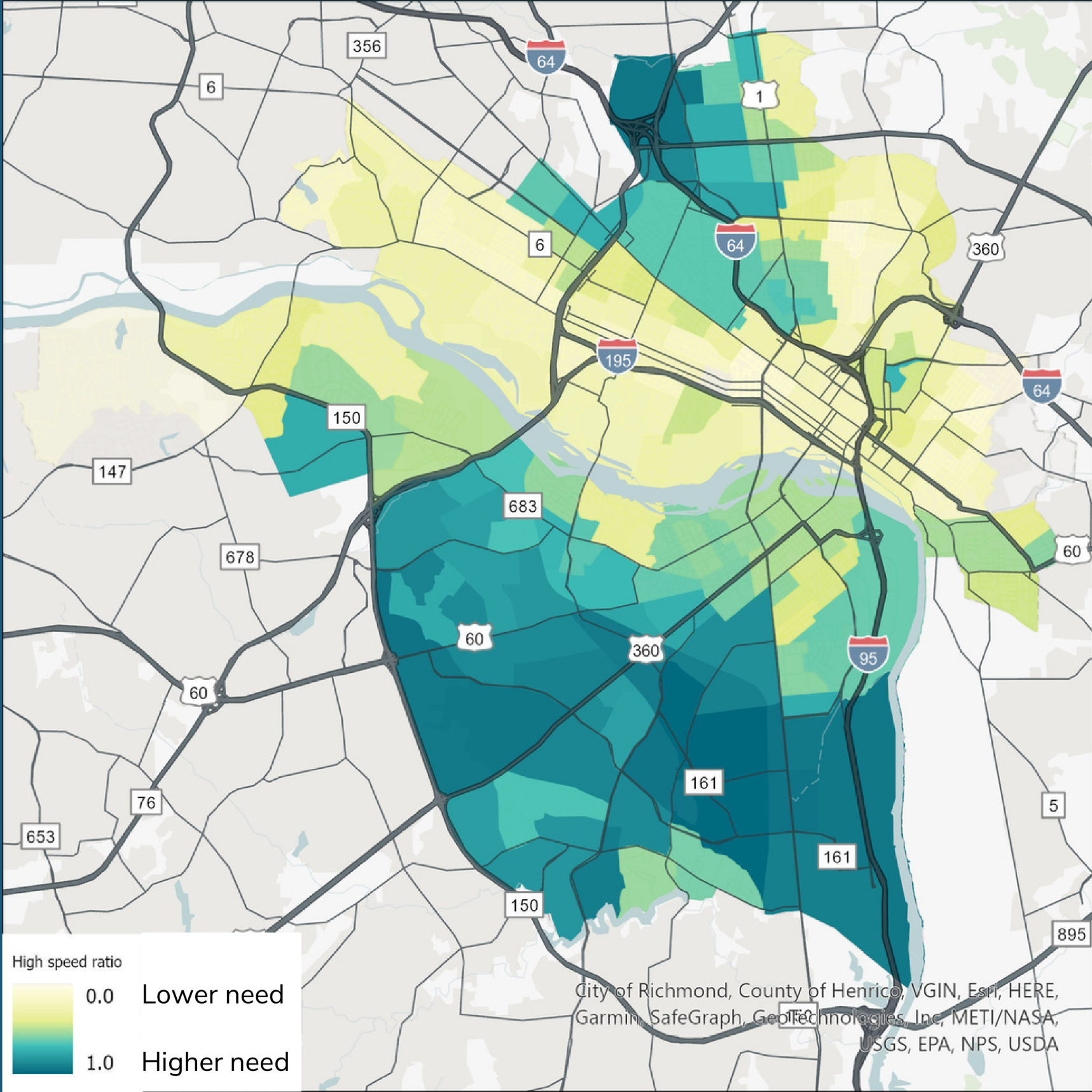


Density of non-motorized safety incidents

Equity Factor 5

Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.

A significant proportion of non-auto travelers must use high-speed multi-lane facilities to reach destinations due to a lack of redundant connectivity

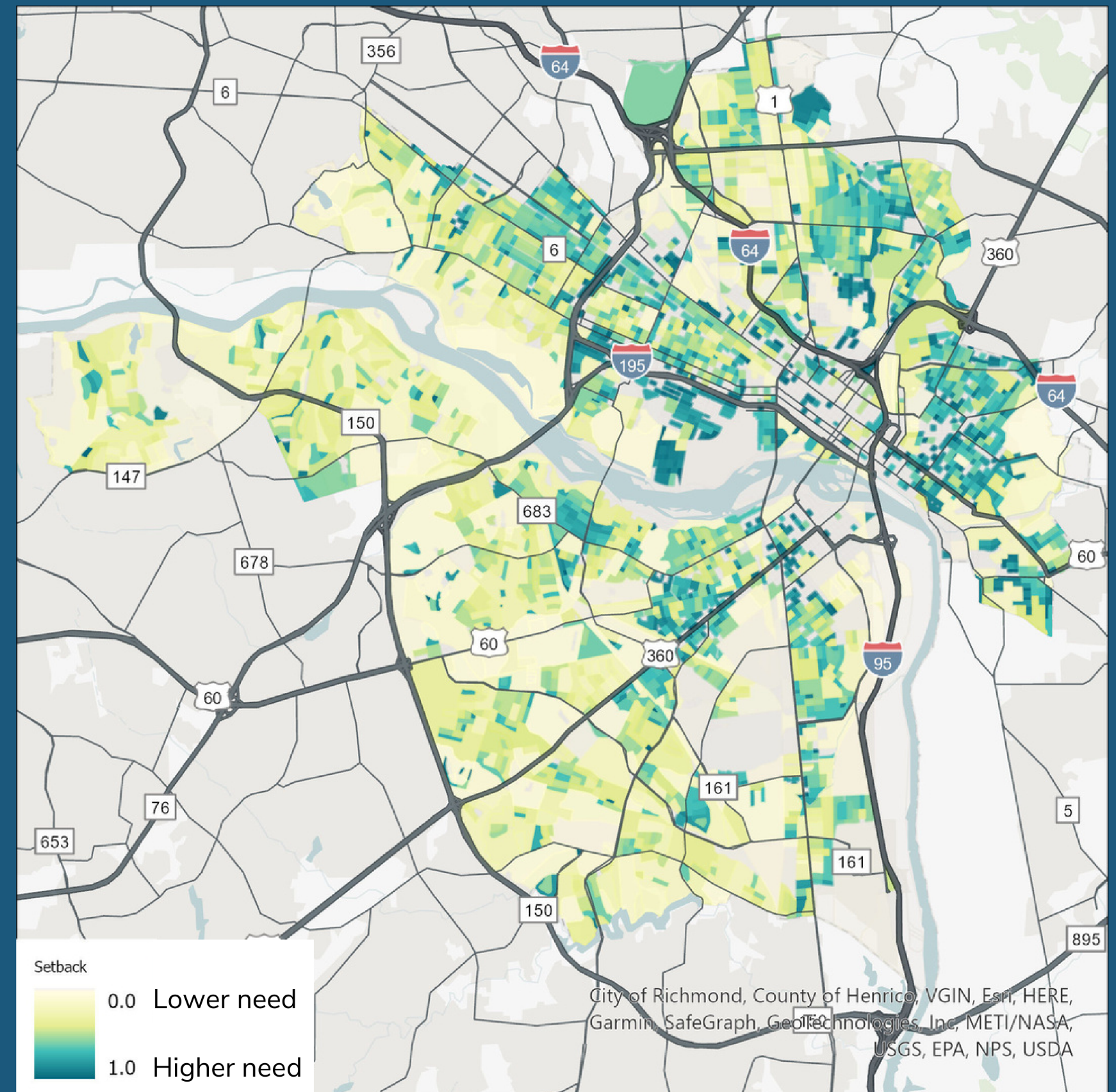


Ratio of origin-end non-motorized travel on high speed, multi-lane facilities
High-speed multi-lane facilities are streets with 35 MPH speed limits and above

Equity Factor 5

Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.

Building setbacks are large and/or buildings face high-speed multi-lane facilities



This component was calculated using City of Richmond structures data, City of Richmond road edge data, and VGIN Road Centerlines. Roads with a speed limit of greater than or equal to 35 mph and greater than 2 lanes were used for selecting high-speed multi-lane facilities,

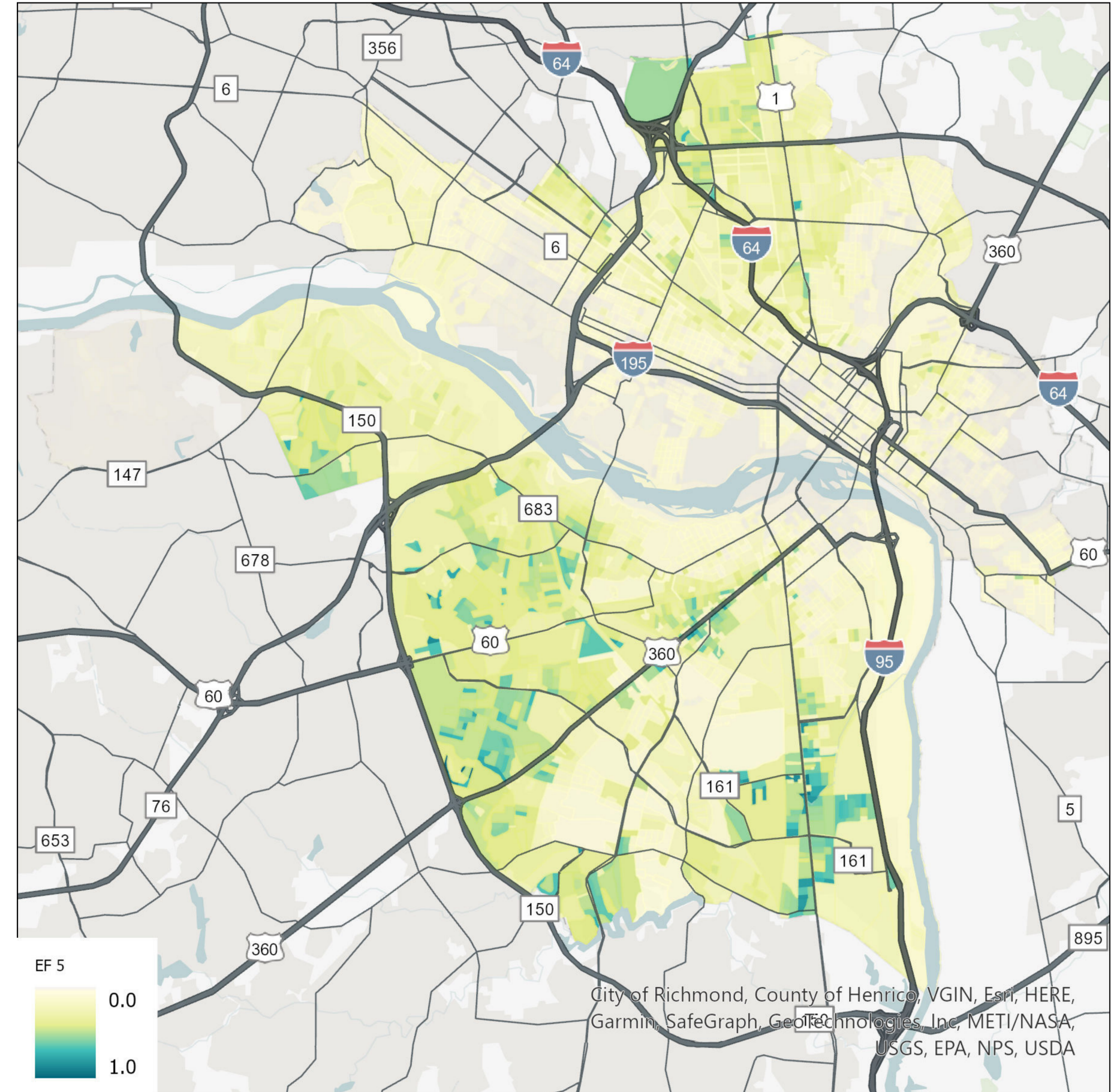
Equity Factor 5

Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.

Combined Equity Factor 5 Map

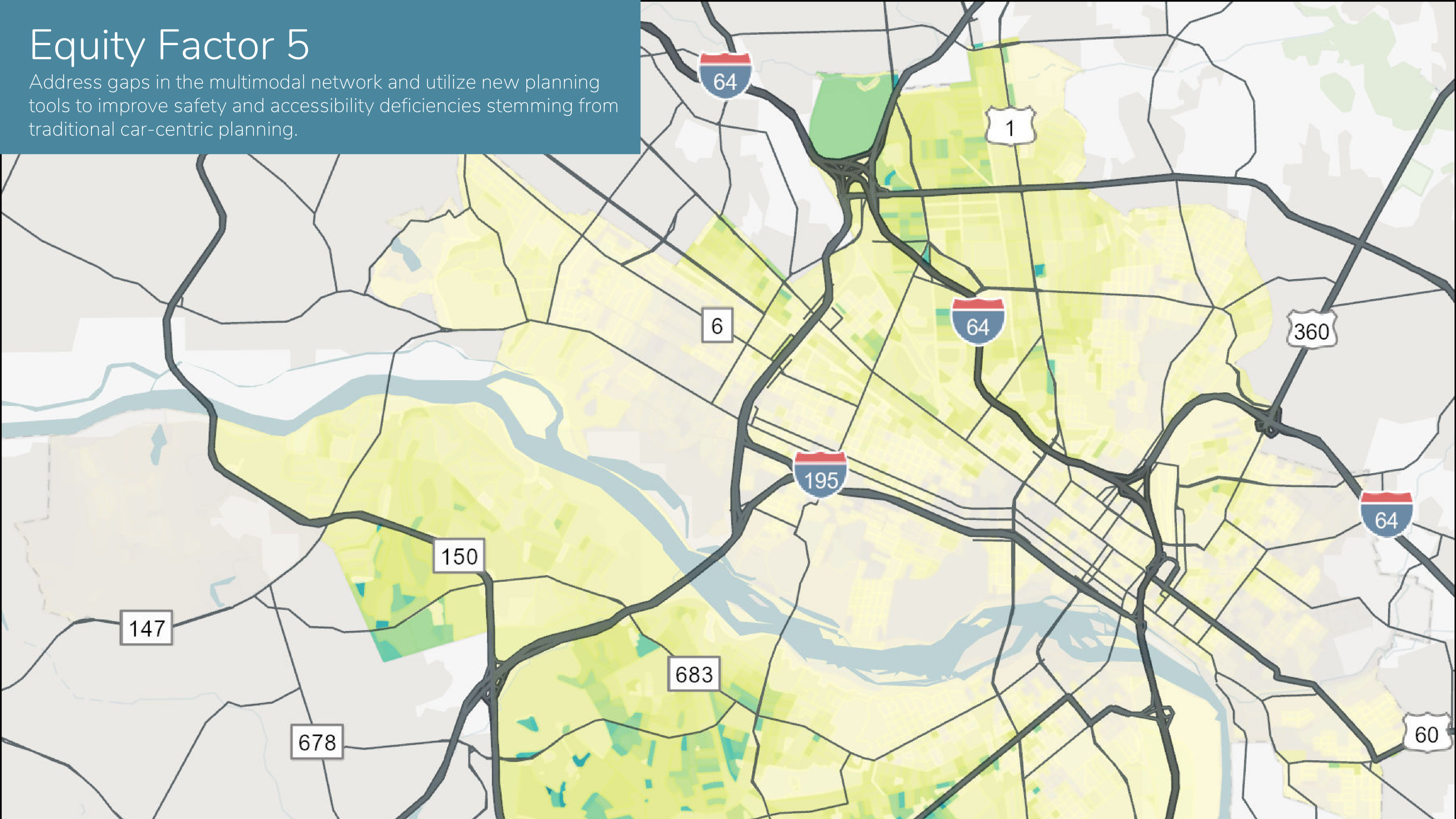
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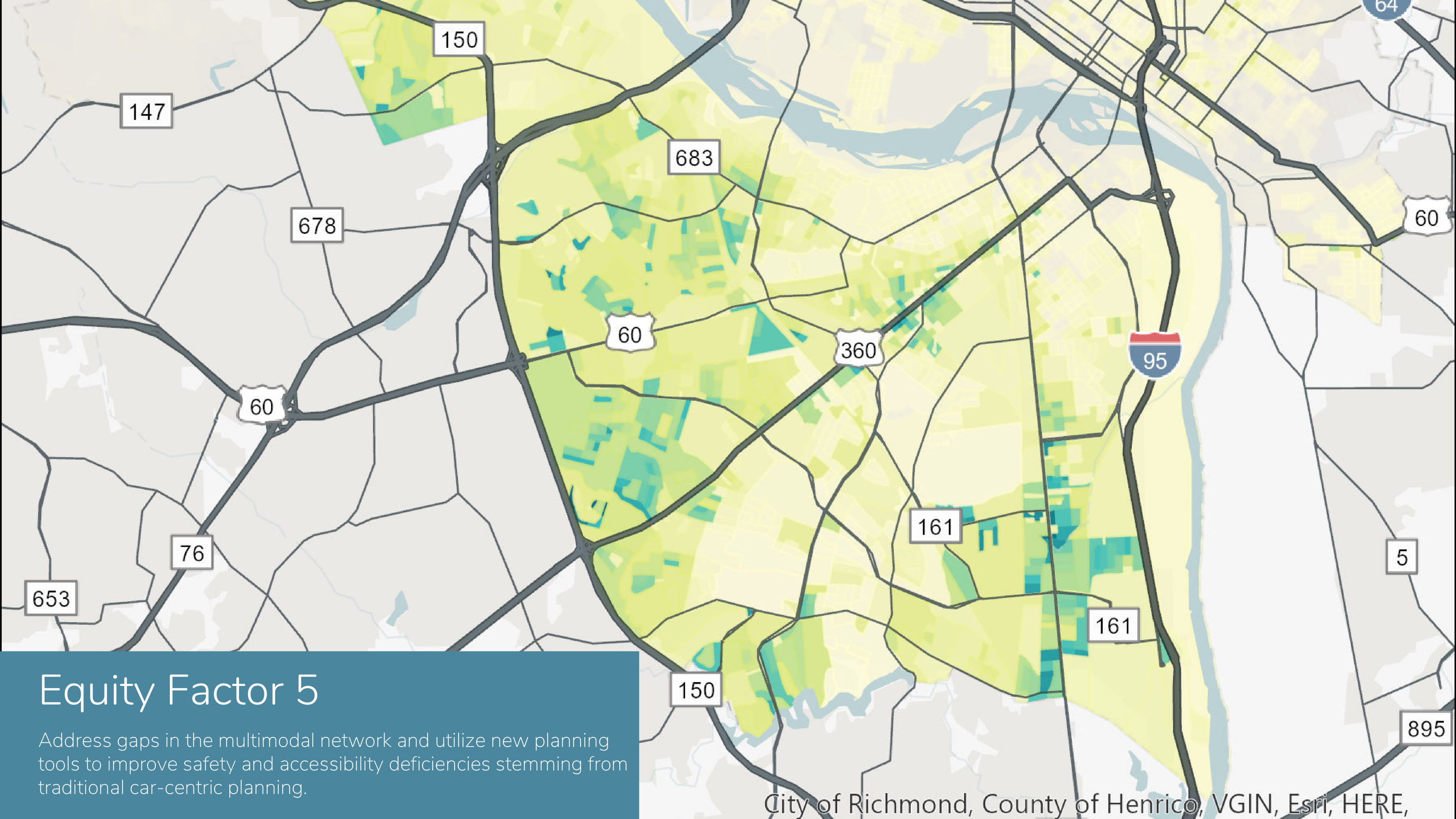
- Accessibility is underperforming due to poor network quality, or
- Safety issues are concentrated], and
- A significant proportion of non-auto travelers must use high-speed multi-lane facilities to reach destinations due to a lack of redundant connectivity, and
- Building setbacks are large and/or buildings face high-speed multi-lane facilities



Equity Factor 5

Address gaps in the multimodal network and utilize new planning tools to improve safety and accessibility deficiencies stemming from traditional car-centric planning.





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