Development and Implementation of a Decision Support Tool for the Atlanta BeltLine

Presented to
UPE 12 Symposium
International Urban Planning and Environemnt Association

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June 1, 2016

Center for Quality Growth and Regional Development
Georgia Tech School of City and Regional Planning

CQGRD

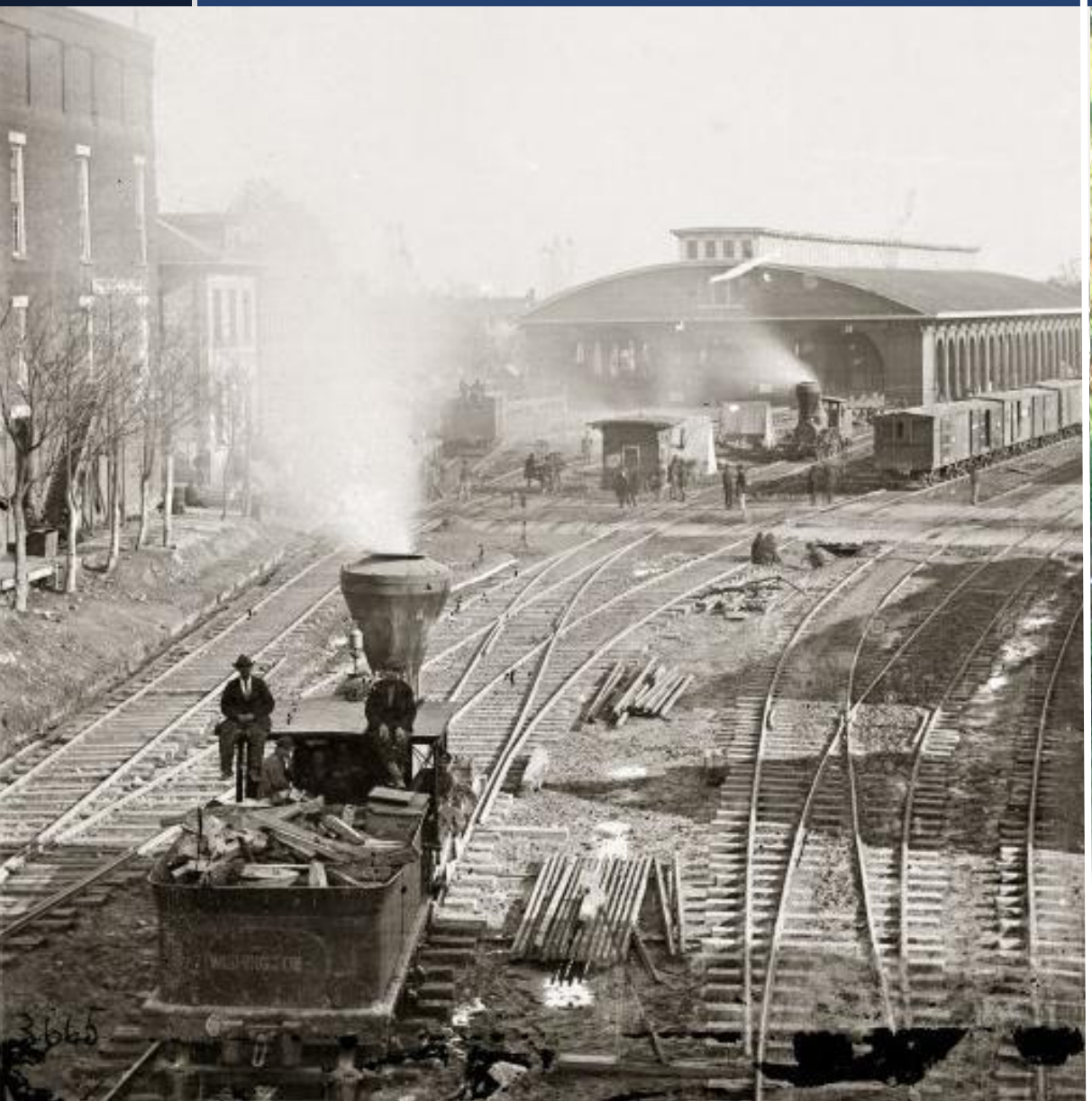
Purposes of Paper

To examine the design and implementation of the Atlanta BeltLine decision support tool as a tool for enhancing collaborative planning, deliberative assessment, and accountability in complex redevelopment projects.

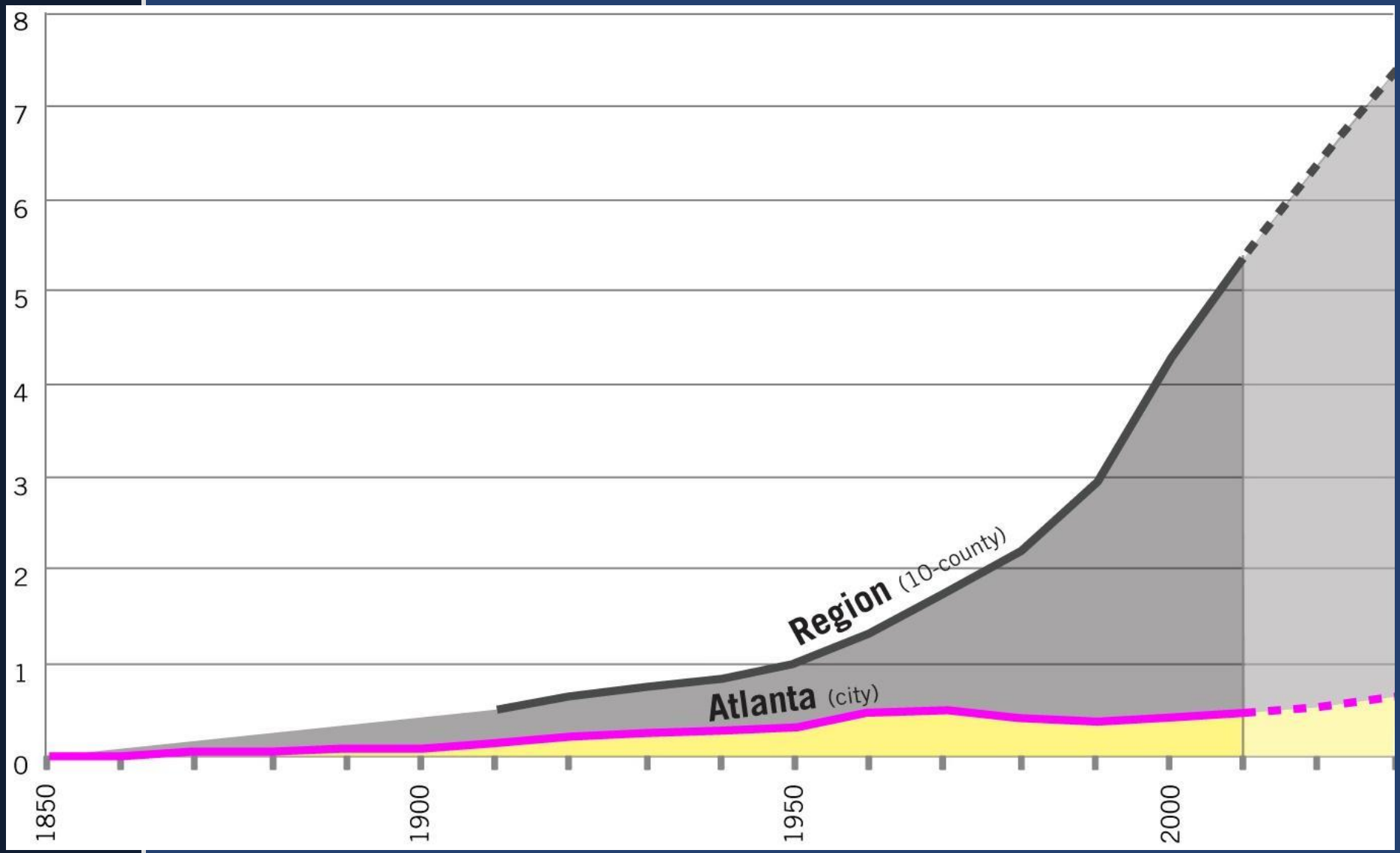
Organization of Presentation

- What is the BeltLine?
- Legal and institutional foundation for Decision Support Tool (DST)
- Strategic choices in the construction of the DST
- Structure of DST
- Application to case
- Assessment criteria and presentation
- Concluding observations

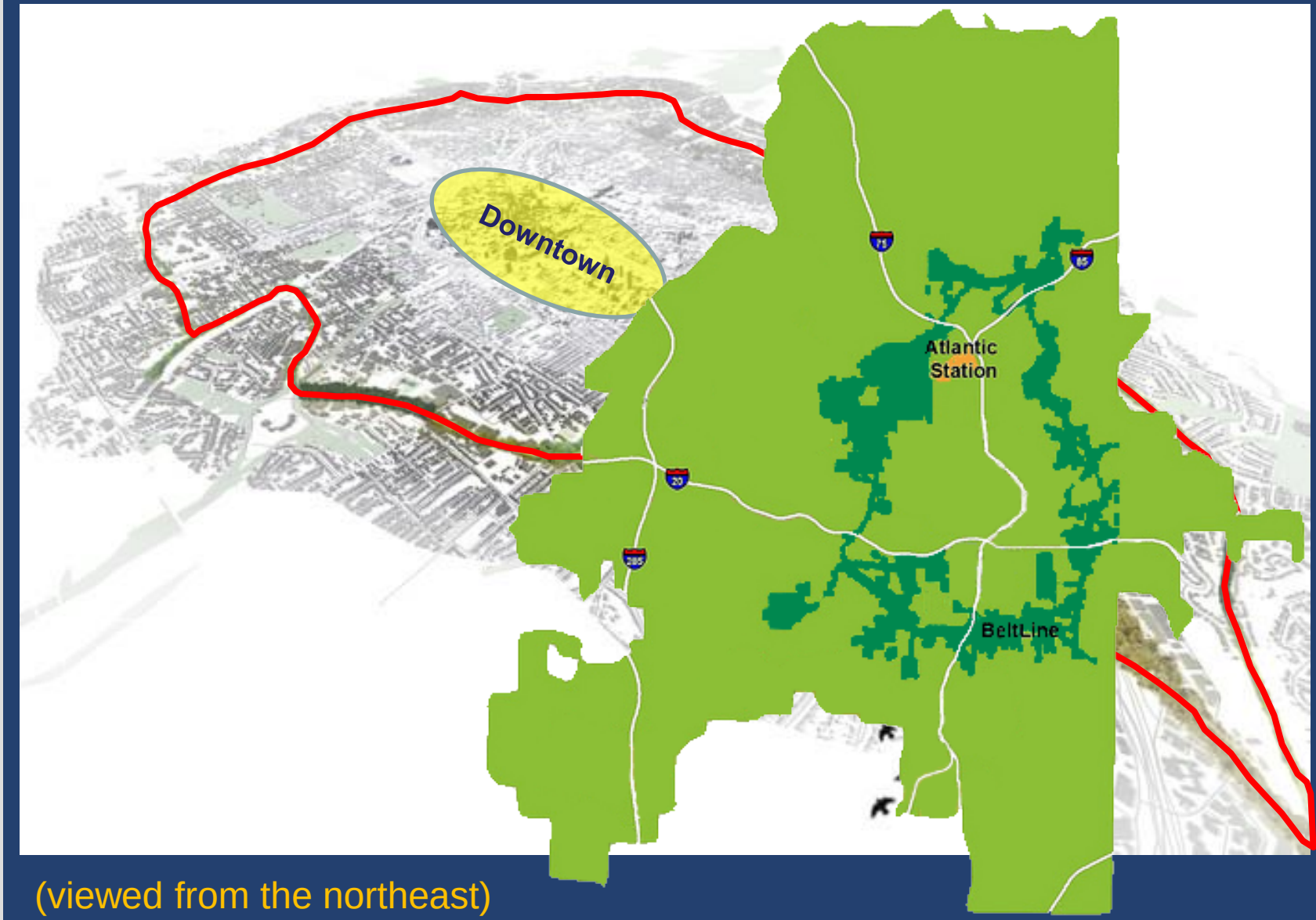
Atlanta



Atlanta


8
7
6
5
4
3
2
1
0
1850
1900
1950
2000
Region (10-county)
Atlanta (city)

What is the Atlanta BeltLine?



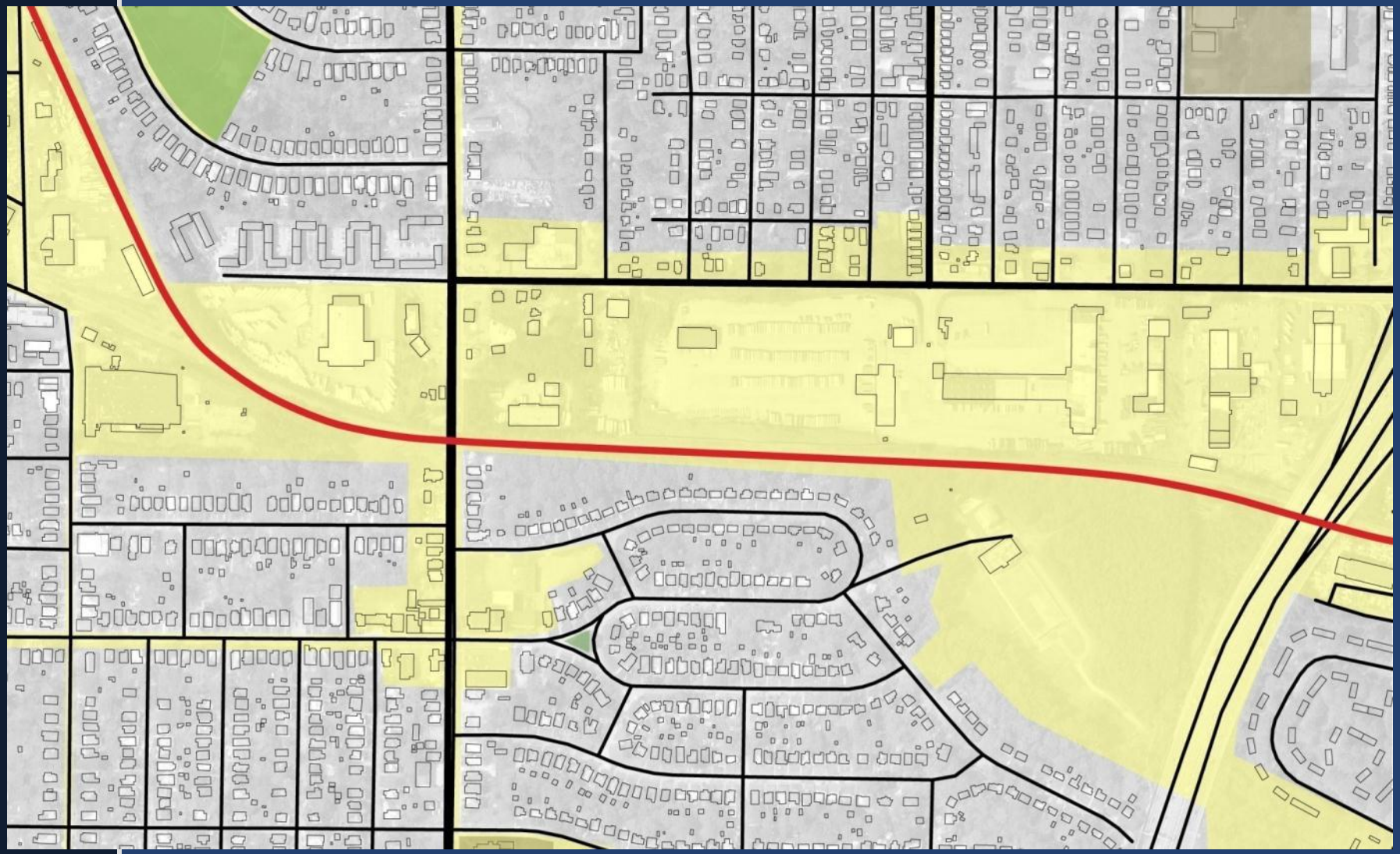
(viewed from the northeast)

Atlanta Beltline (Ryan Gravel, 2004)

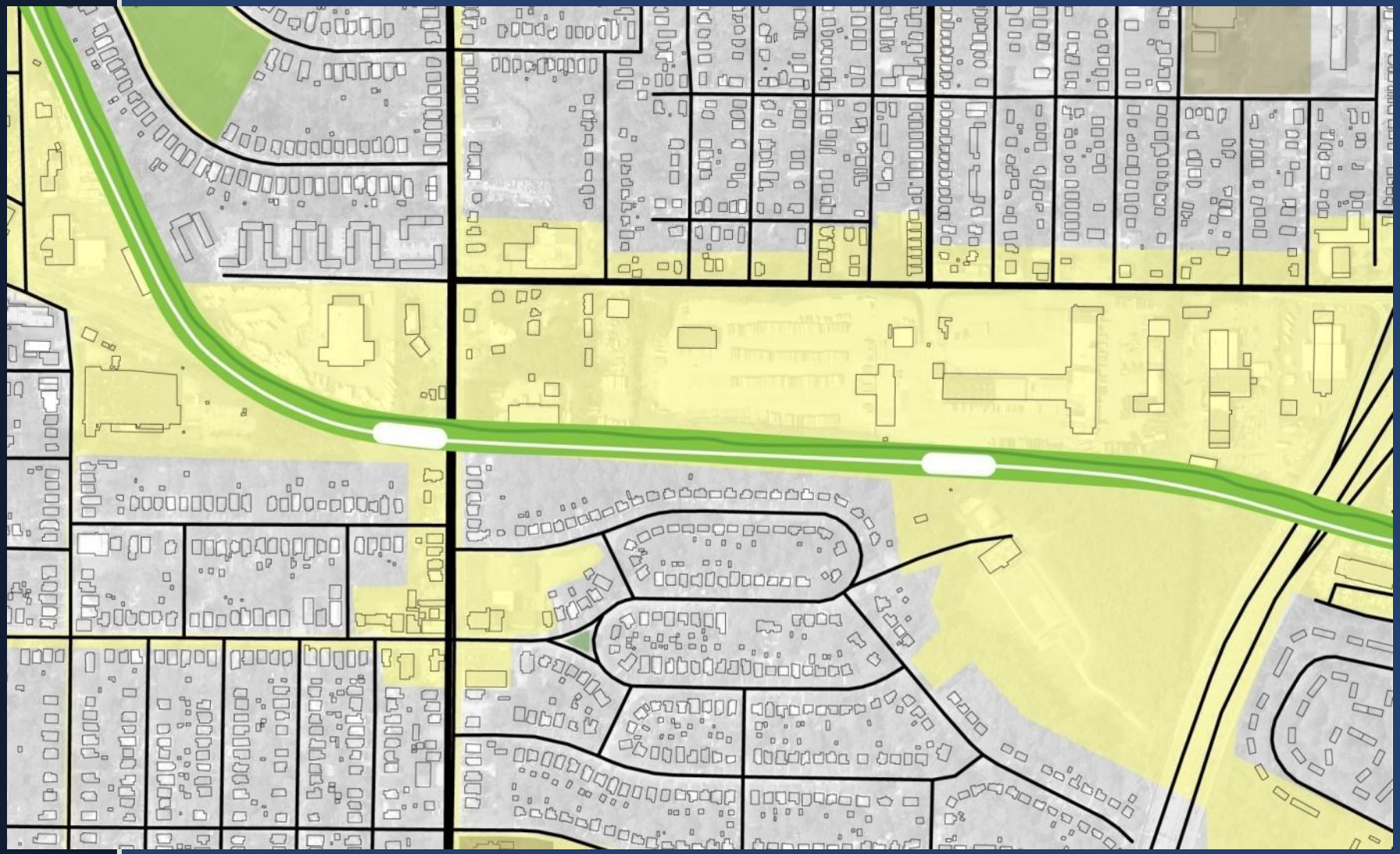
Atlanta Beltline (Ryan Gravel, 2006)

Atlanta Beltline (Ryan Gravel, 2013)

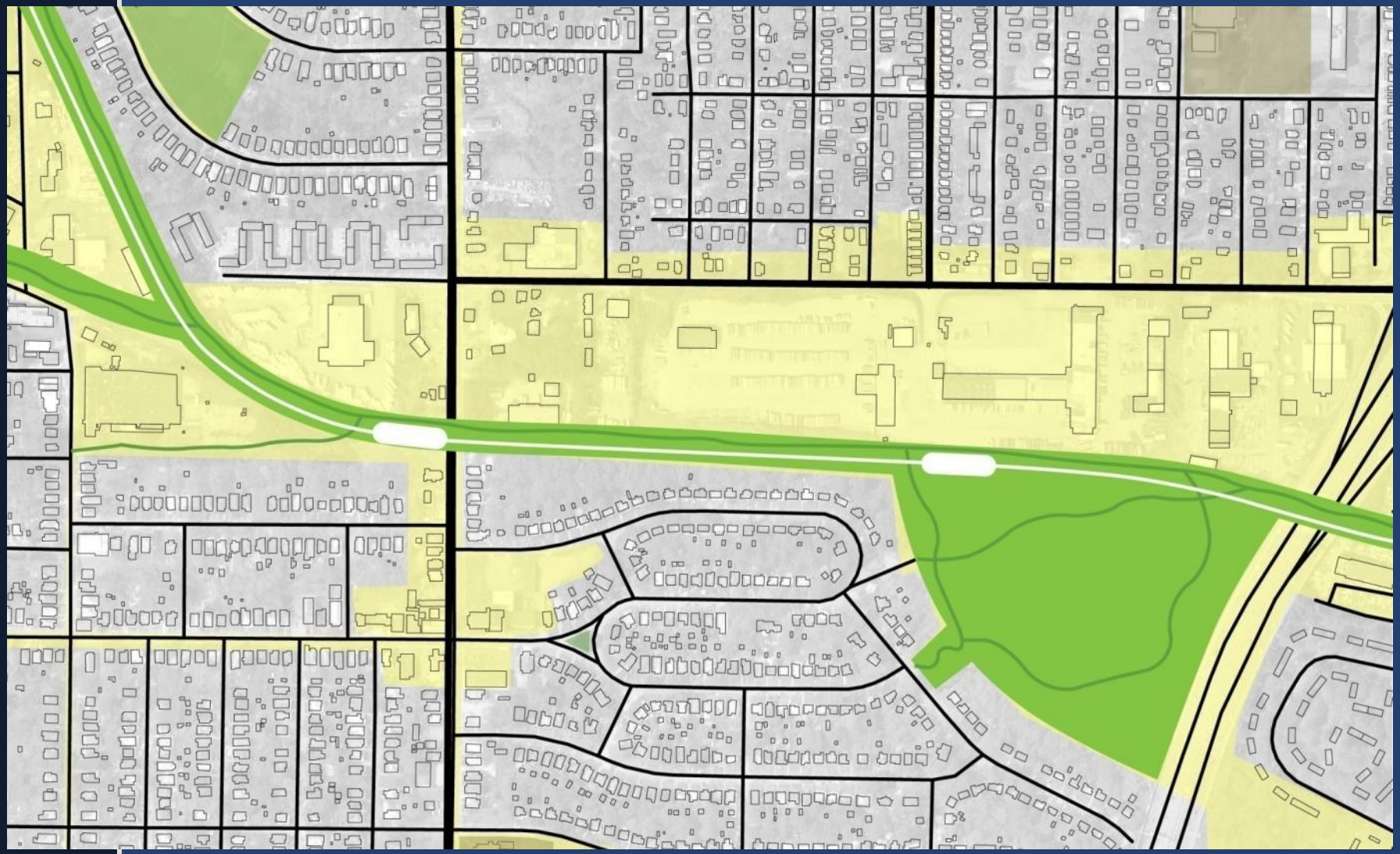
Atlanta Beltline corridor (red) + obsolete industrial and commercial properties (yellow) (Perkins+Will, 2009)



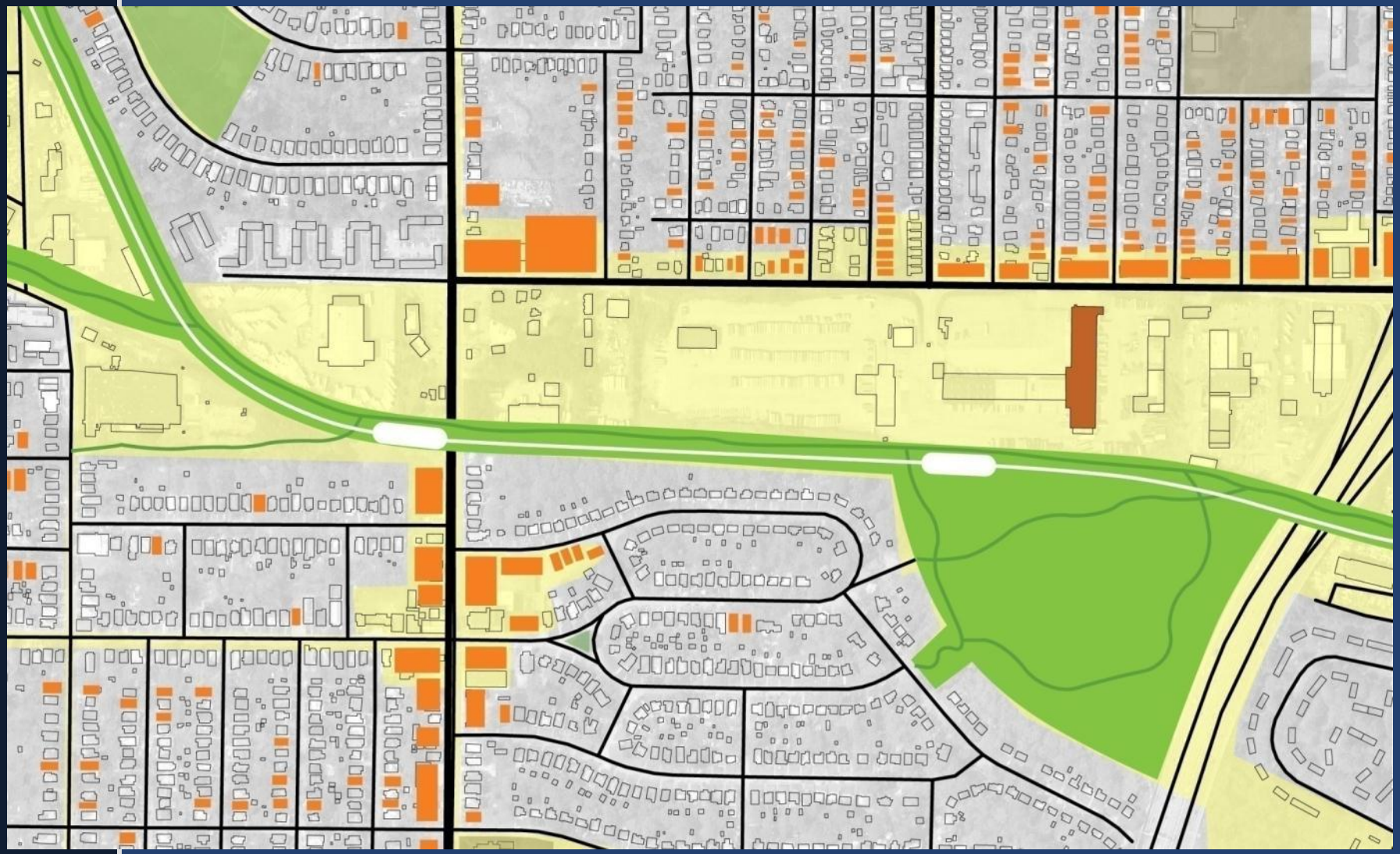
The transit and trail (Perkins+Will, 2009)



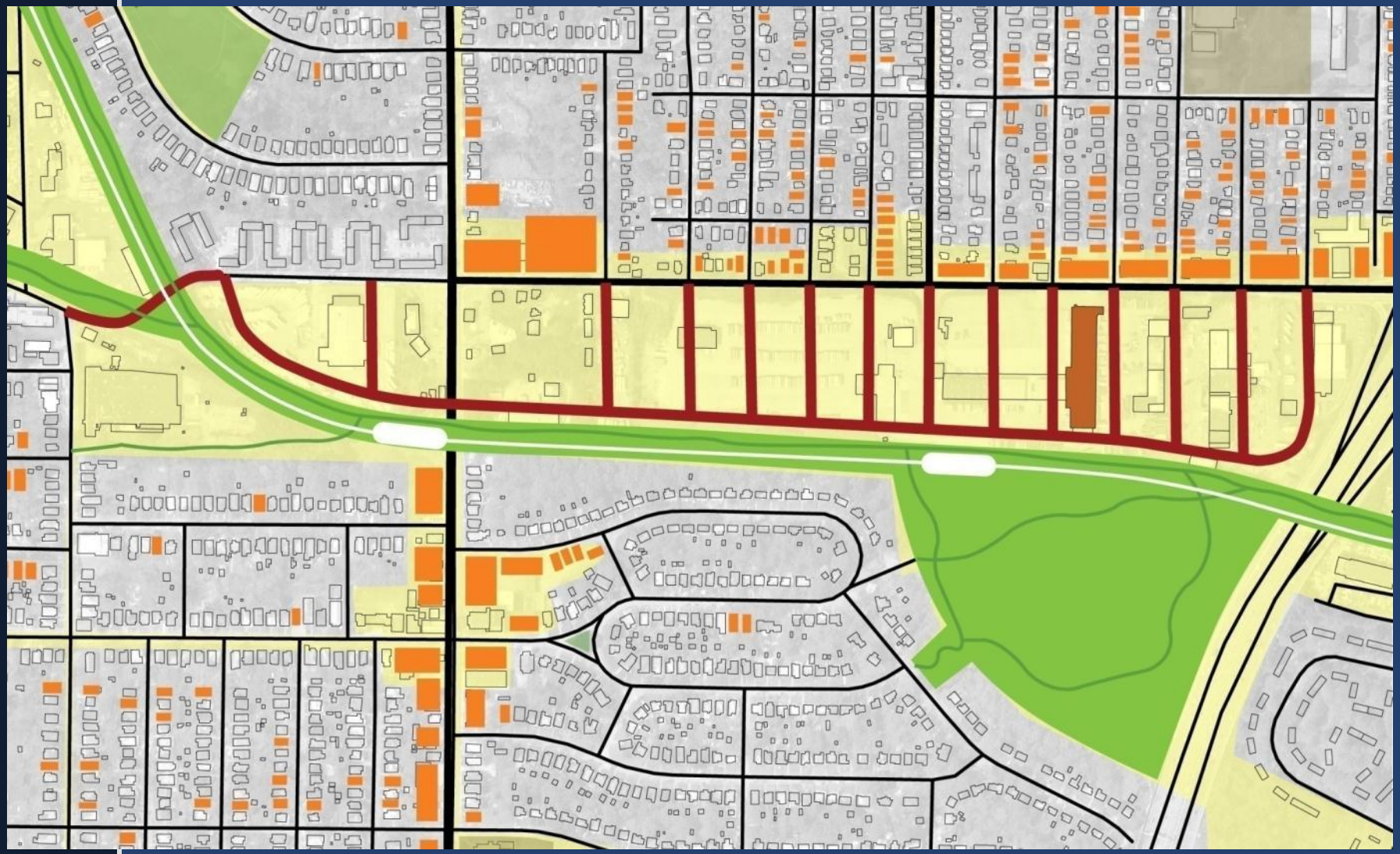
New parks on city-owned land and greenways along other rail corridors (Perkins+Will, 2009)



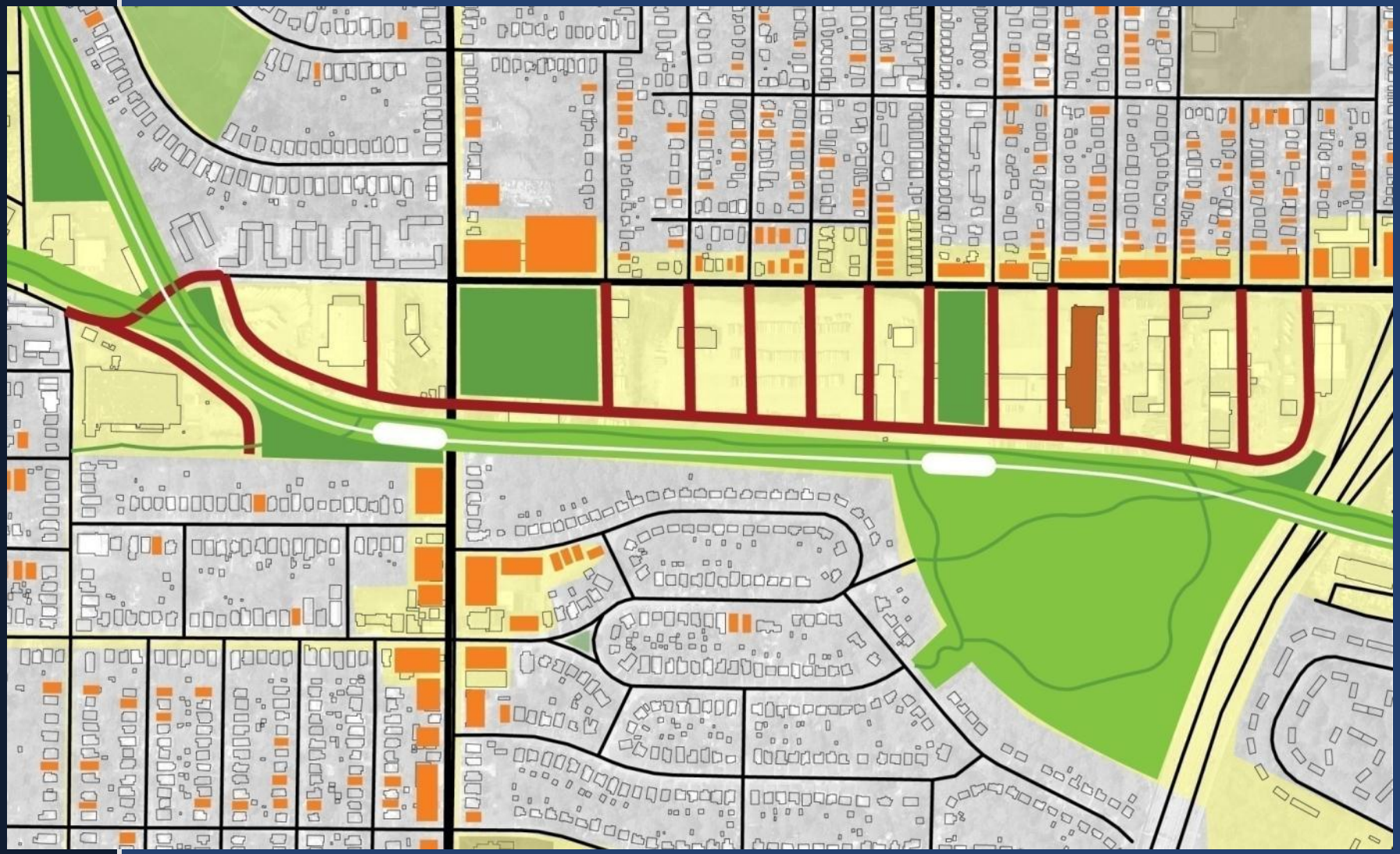
Infill development on vacant lots (Perkins+Will, 2009)



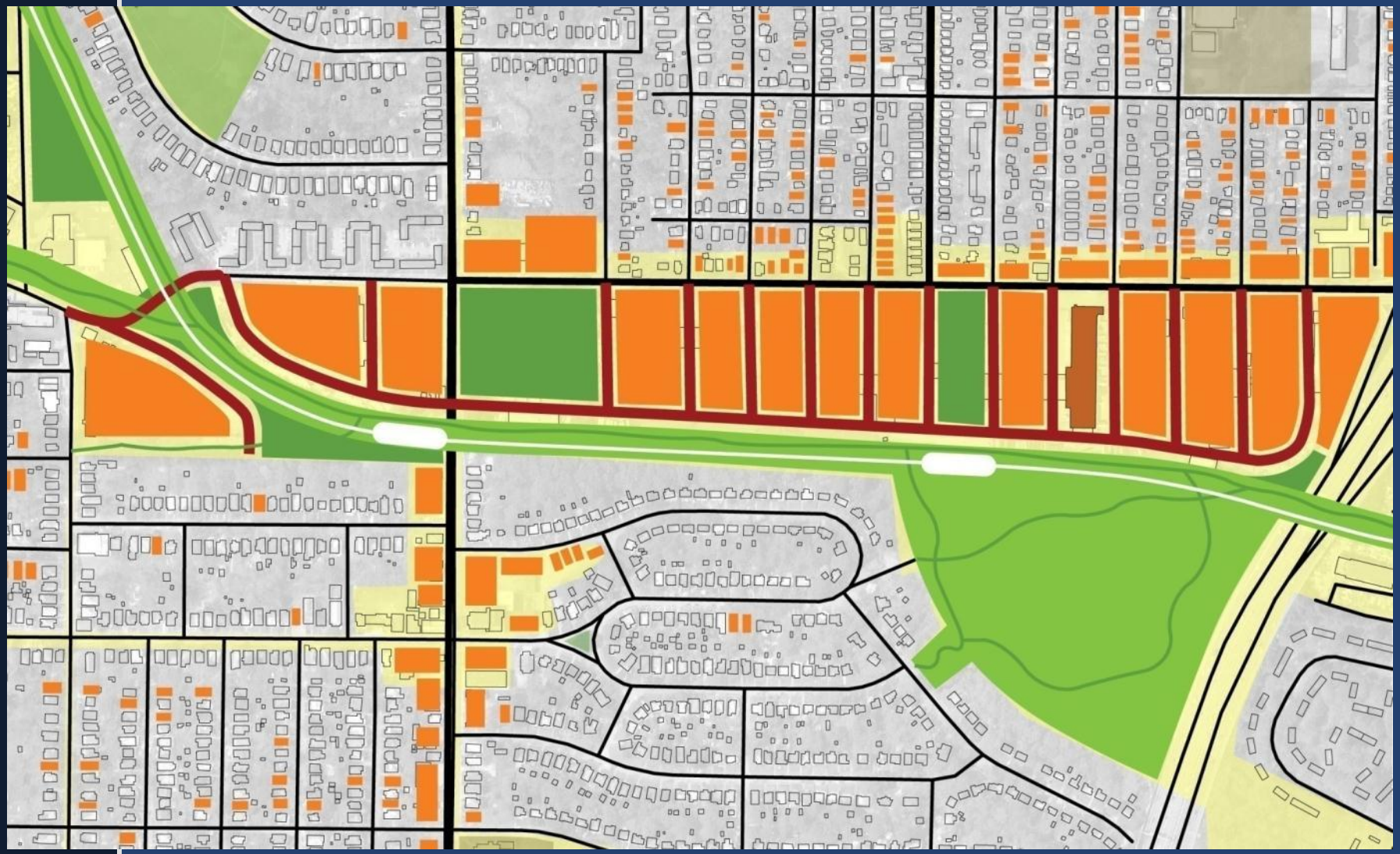
Extension of streets to access the corridor and to create walkable urban blocks (Perkins+Will, 2009)



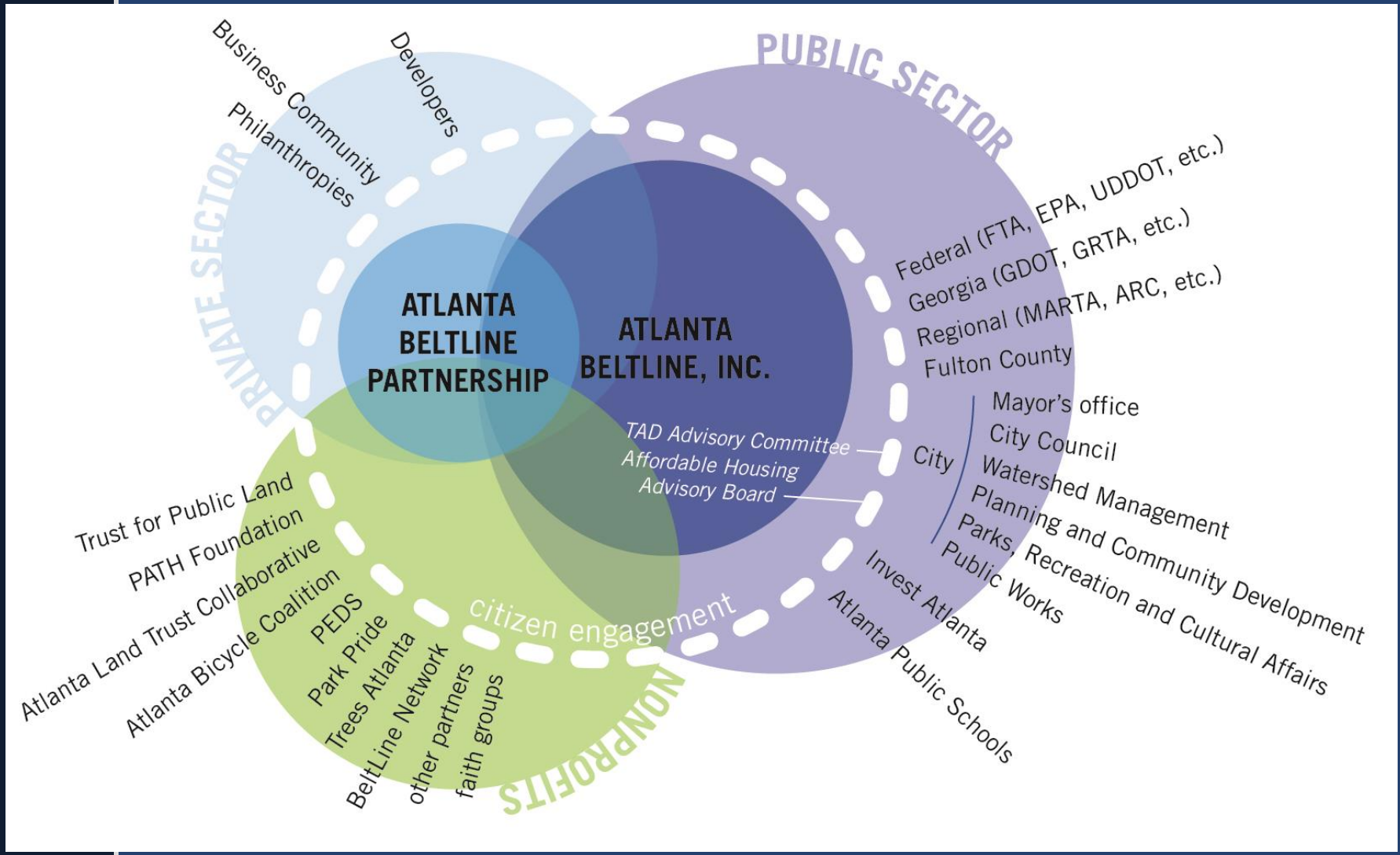
New public spaces as a part of that new configuration (Perkins+Will, 2009)



Redevelopment to support transit ridership, land values, and existing communities (Perkins+Will, 2009)



It takes a Partnership



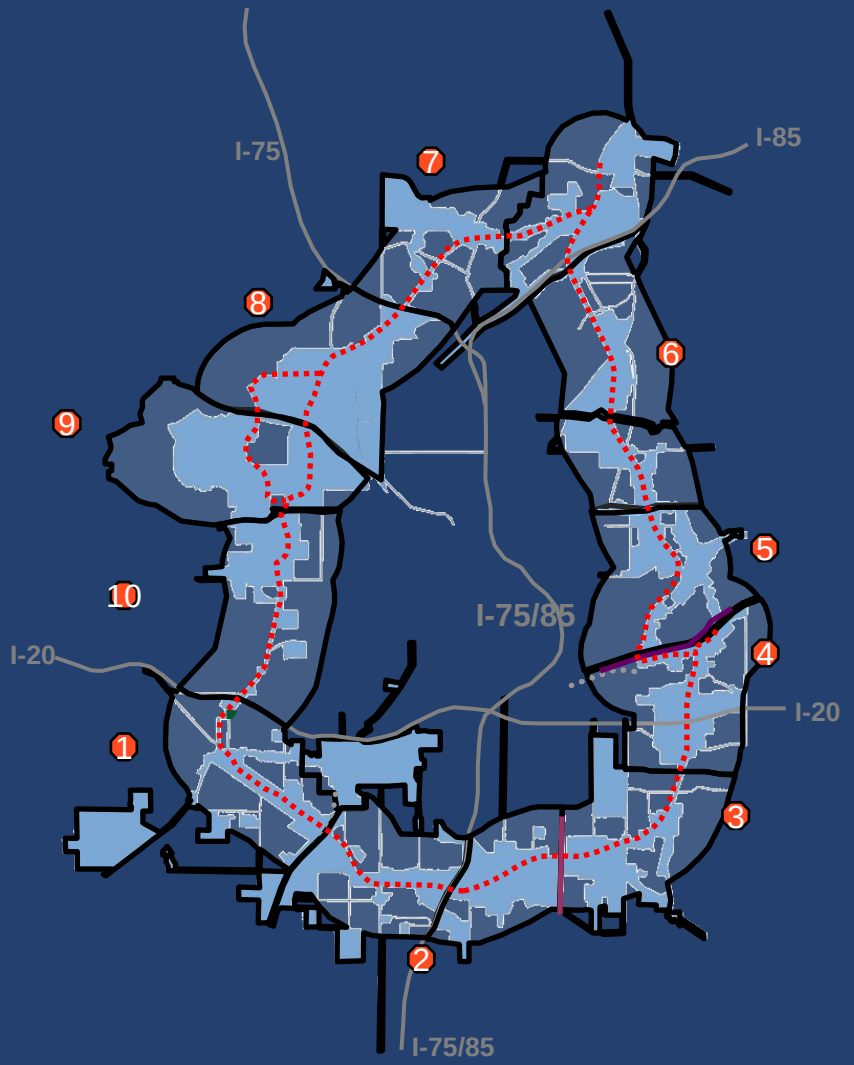
Atlanta Beltline (collage, Perkins+Will, 2009)

Atlanta Beltline (RG, 2013)

Atlanta Beltline (Perkins+Will, 2013)

Ambitious Goals

- Parks:
  - 700 acres improvements
  - 1,300 acres new greenspace and parks
- Trails:
  - 33 miles new trails
- Transit:
  - 22 mile transit service
- Redevelopment:
  - TAD = 6,500 acres (8% of Atlanta)
  - 10 redevelopment nodes
  - 29,000 housing units (5,600 affordable)
  - 5.3 million ft^2 office
  - 1.3 million ft^2 retail
  - 5.2 million ft^2 industrial
  - 407,000 ft^2 institutional
  - 30,000 new jobs



Tax Allocation District: $1.7 billion
Total Project Costs: $2.8 billion

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Role of DST in Collaborative Planning

Legal Provision for Decision Support Tool

Atlanta Ordinance 05-O-1733
Creating the Beltline Tax Allocation District

"The **(TAD) Advisory Committee** shall be responsible for developing and implementing a "**decision making support tool**" designed to **measure the impact… and ensure accountability for effective and equitable implementation** of the project."

"By way of description only, DST should address

- balanced development,
- poverty reduction,
- income,
- educational achievement,
- land use,
- historic preservation,
- density,
- growth,
- park usage,
- trail usage,
- water quality,
- traffic,
- sewer capacity,
- community involvement/civic engagement,
- retail growth,
- health measures,
- cultural considerations, and
- environmental impacts."

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Implications of Legislation

TADAC is to make recommendations on:

- Allocation and distribution of the tax allocation bond proceeds
- Implementation of the Beltline Redevelopment Plan that is
  - effective
  - equitable

The Decision Support Tool is designed to:

- Measure the impact of the BeltLine project
- Ensure accountability for implementation that is
  - effective
  - equitable

Implications:

DST to support decisions relative to expenditures and plan implementation with focus on impact, effectiveness and equity

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Strategic Choices in the Construction of the DST

Strategic Choices

Decision Process

- Scale of decisions to be supported
  - Strategic
  - Comparative projects
  - Isolated projects
  - Opportunistic investments
- Ease of use
  - Lay person
  - Technically supported
- Outputs
  - Metrics
  - Indices
  - Flags (highlight opportunities and problems)

Incorporated Data

- Extensiveness of database
  - GIS scale & detail
  - Periodicity of data
    - Need for updating
- Data Type
  - Qualitative
  - Quantitative
- Flexibility
  - Standard metrics (baseline data)
  - Project specific data
- Data Source
  - Publicly available
  - Perceptual and local knowledge

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DST Framework: Screen 1

ABI Goals (2005 Plan and Annual Reports)	Reorganized	Variables (Factors)
Create connected system of Greenspace • **1,300+ acres of new or expanded parks** • **Improve 700+ acres of existing parks** • **public art**	Healthy, active living through new parks, trails, and streetscapes.	Health Population Walkability/bike-ability indices
Access into/within redevelopment area • **33 miles of trails connecting 40 parks** • **New/renovated streets & intersections** • **31 miles of new streetscape**	Access into and within the redevelopment area	Transportation Walkability
Connect activity centers & neighborhoods • **22-mile pedestrian-friendly transit**	Same	Transportation variables
Promote a more economically vibrant city • **30k permanent, 48k year-long jobs**	Economically vibrant city	Economic variables
• **Preserve viable light industry** • **5,600 workforce housing units**	Workforce housing	Housing
Create sustainable neighborhoods • **Environmental remediation** • **Preservation of single-family neighborhoods & historic bldgs.**	Community well-being	Land use Population Historic Pres.
• **Appropriate transitions to higher-density uses**	Environmental sustainability of neighborhood/city	Environmental variables
Promote tax base • **$20 billion increase over 25 years**	Financial health of project and city	

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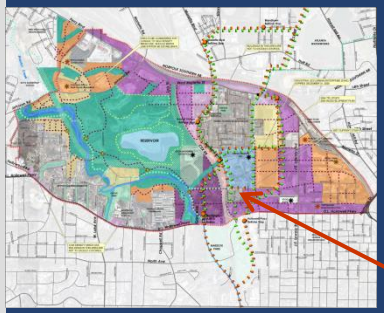
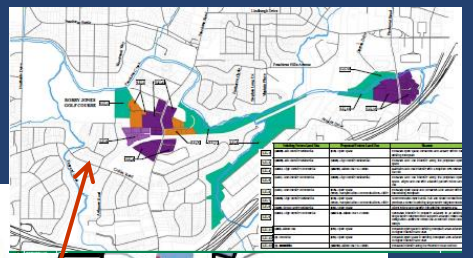
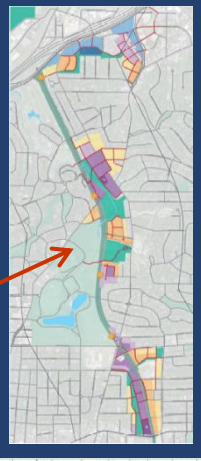
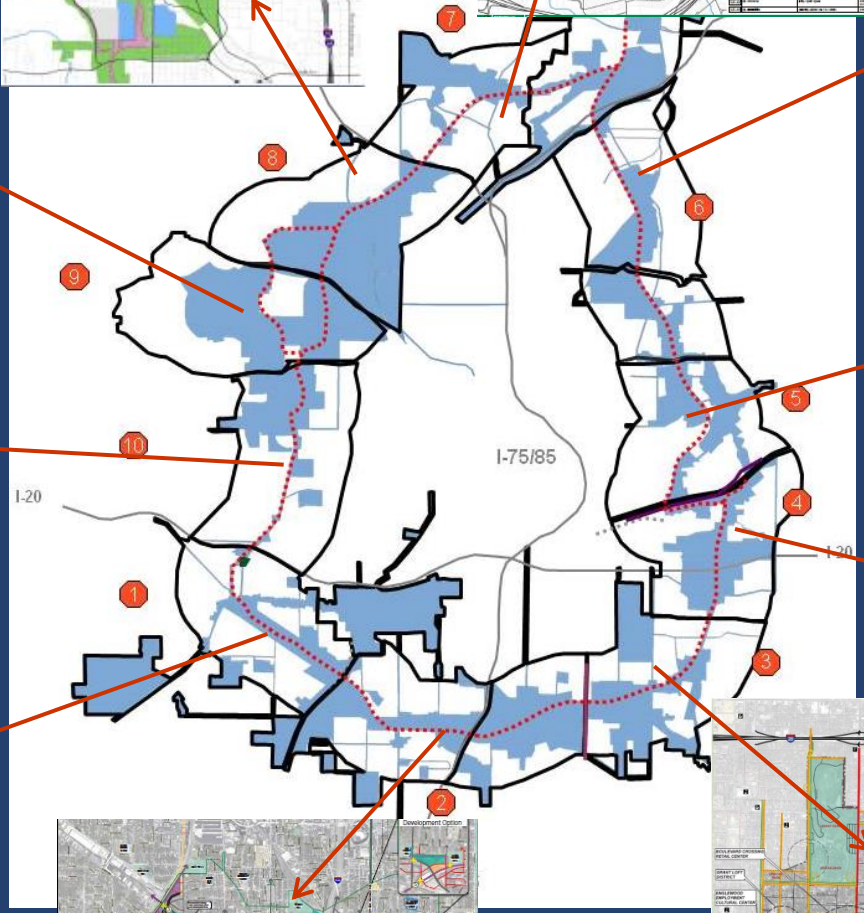
DST Framework: Vision & Goals

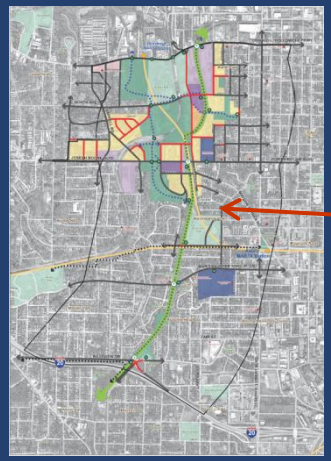
BeltLine TAD and Master Plan Sub-Areas

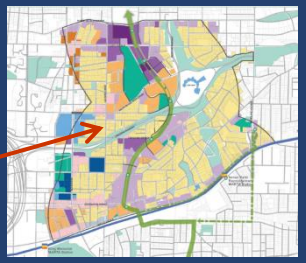


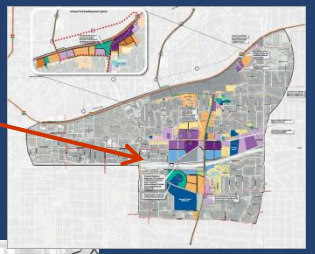


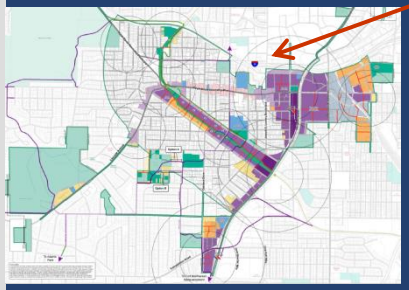


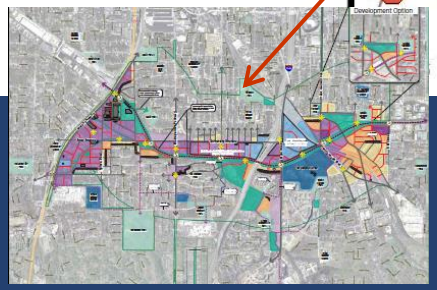












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Structure of DST

Data & Variables

Indicators	Metrics
Accessibility	Street connectivity Prevalence of sidewalk network Uncongested roads (LOS = C or better) Travel speed via transit
Healthy, Active Living	Walkability Physical activity Safety (few crimes) Proximity to healthy food
Economic Vibrancy	Income Employment Retail & industrial activities Educational achievment
Greenspace & Environment	Access to greenspace & trails % canopy cover Environmental sustainable design Water quality
Housing & Community Design	Housing choice Health of housing market Affordability Density
Built Environment & Tax Base	Tax base Art & historic preservation Land use mix (entropy scores) Compatibility with subarea plans
Social & Environmental Equity	Minority & special needs populations Historic expenditures by ABI Environmental quality Civic engagement

Data Structure

Structure

- Raw data stored in Access databases
- Data analyzed in GIS
- Resulting variables exported to Access database
- Final indicators calculated in Excel spreadsheet

Base Data

- Matches subarea district boundaries
- All types of data must be converted to subarea-wide variables

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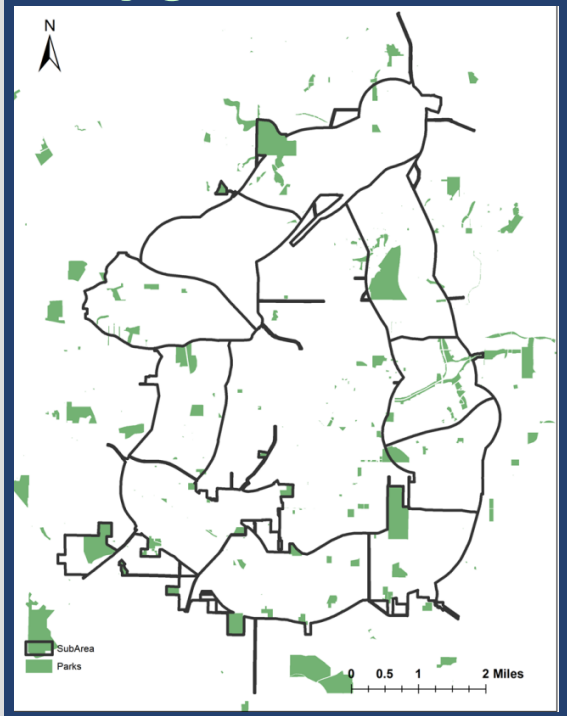
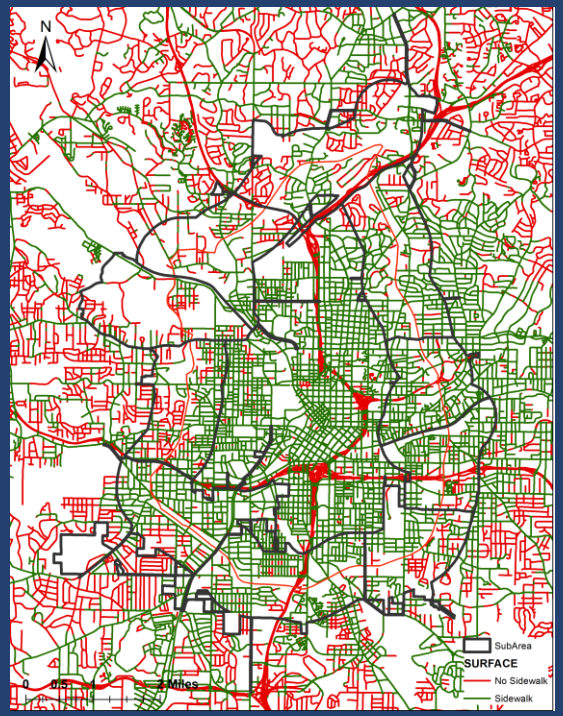
Data Types

- Census Block Group & ACS Data
- Parks
- Land use
- Impervious surface
- Flooding risk
- Pollution hot spots

Polygon Data



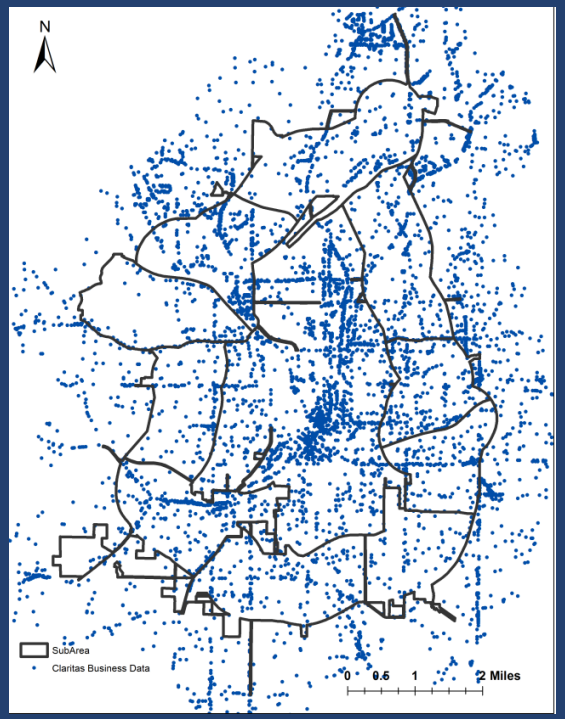


Line Data

- Sidewalks
- Traffic congestion

- Claritas Business Data
- Parcel Level Assessment Data
- Crime Data

Point & Small Area Data



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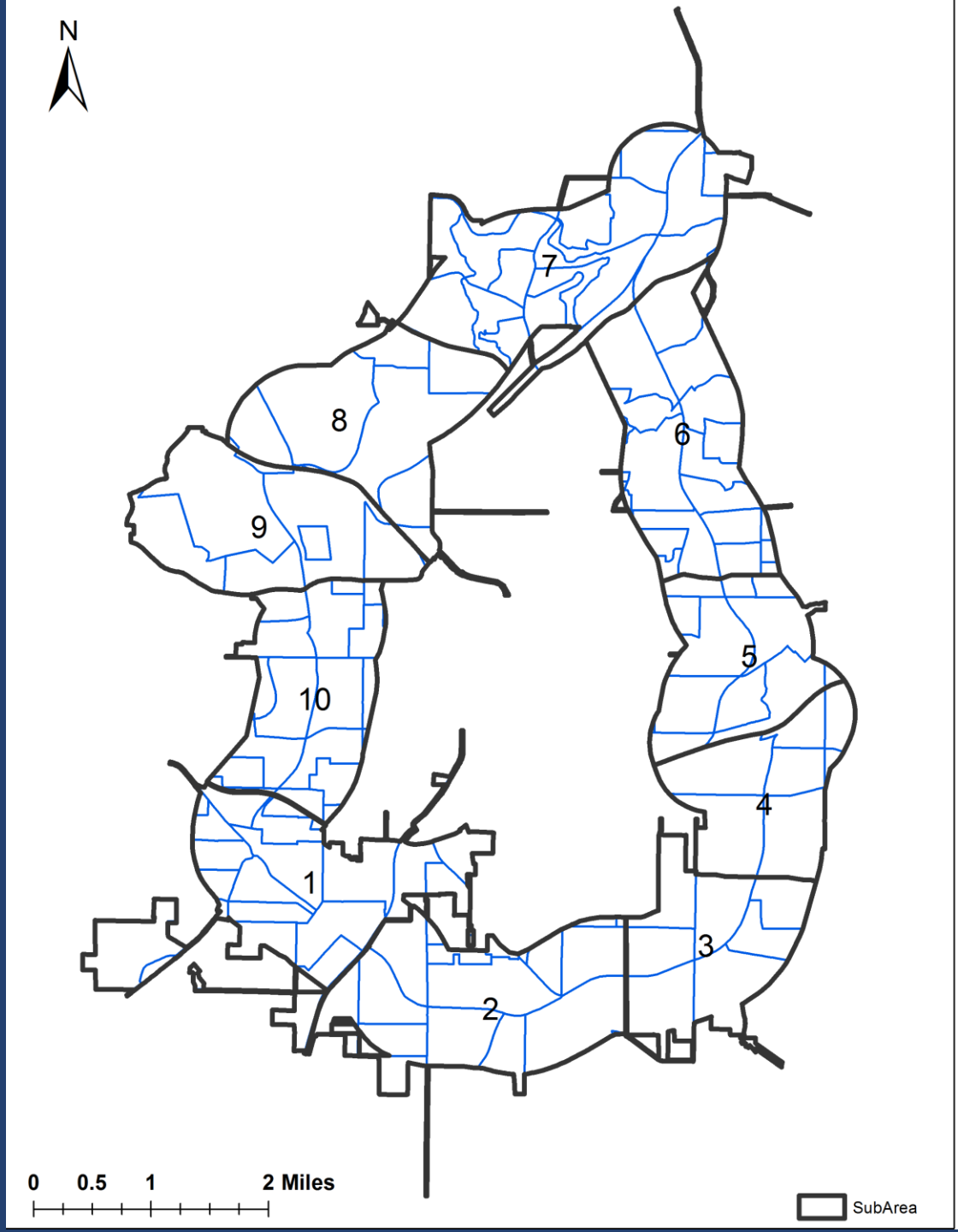
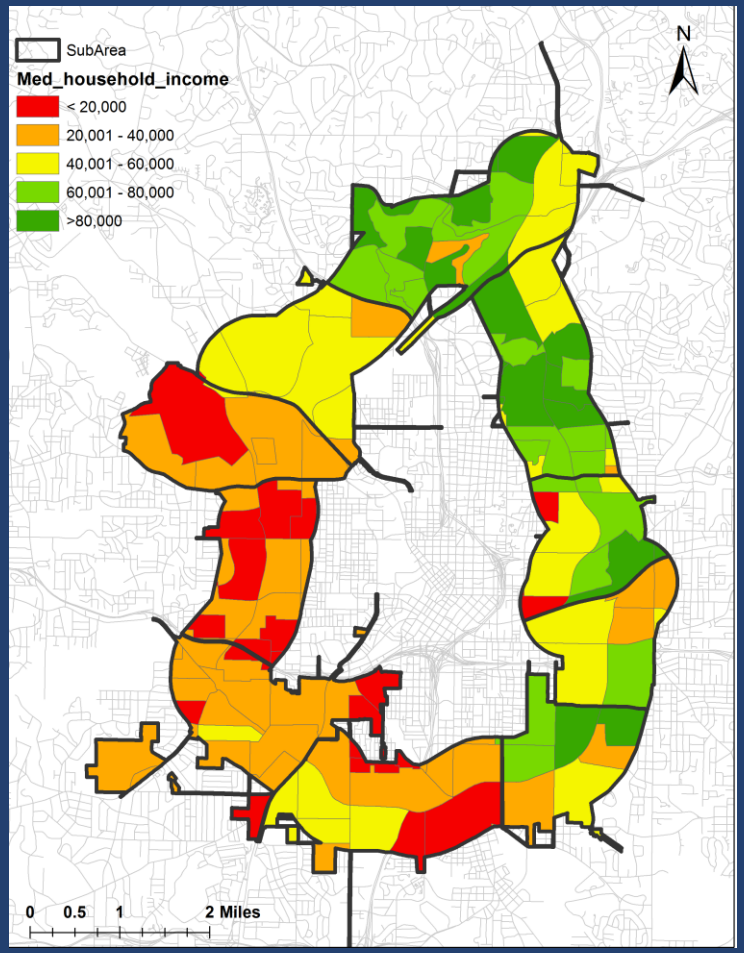
Block Group

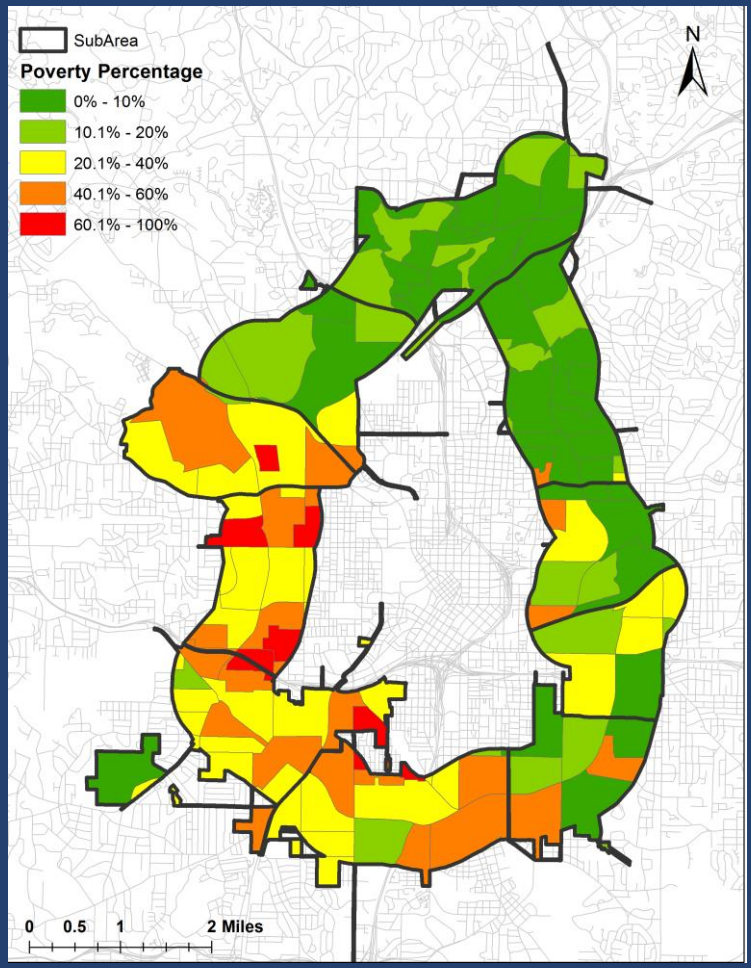
- Census
- American Community Survey



Metrics Built from Several Variables



Median Household Income



% below poverty level

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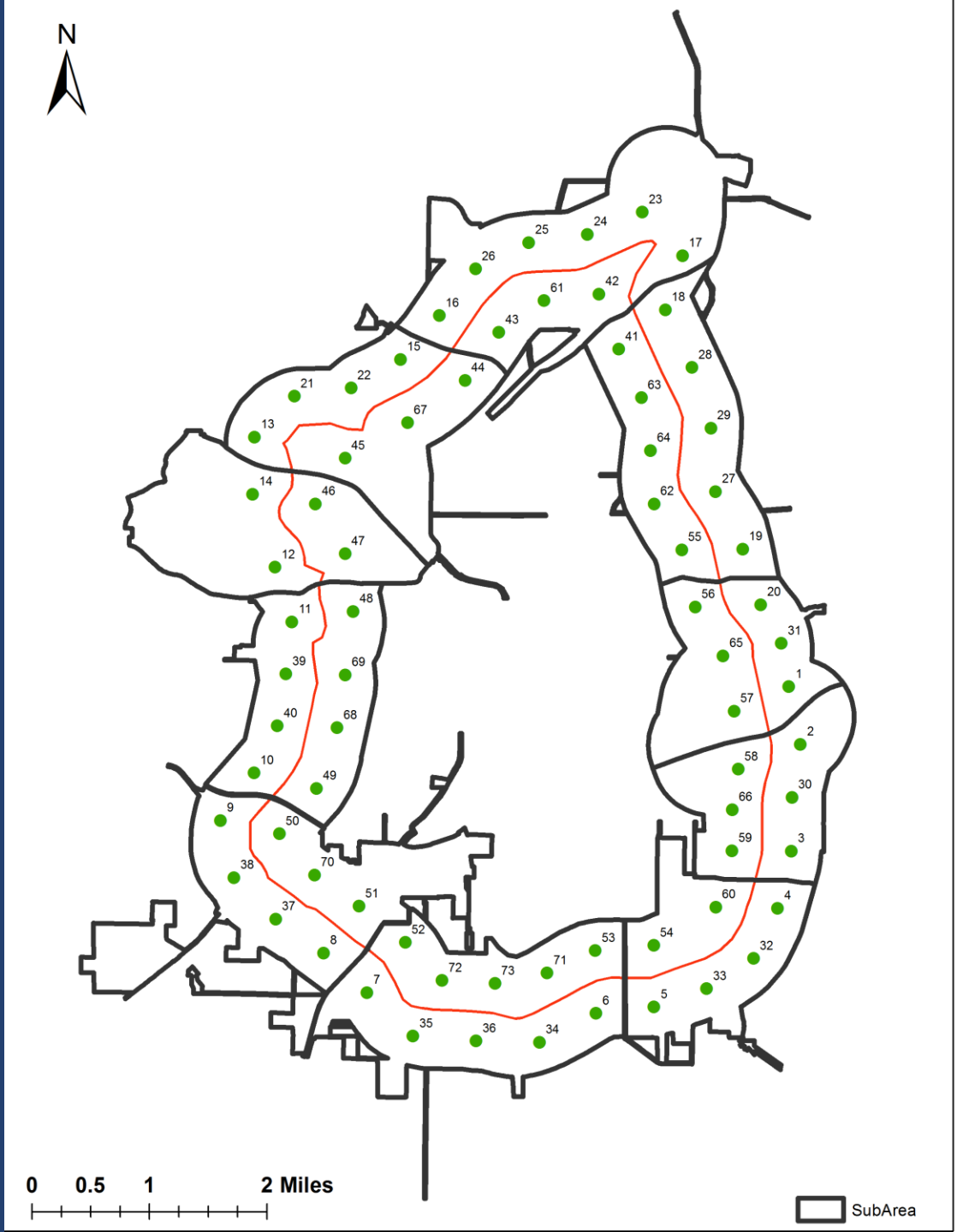
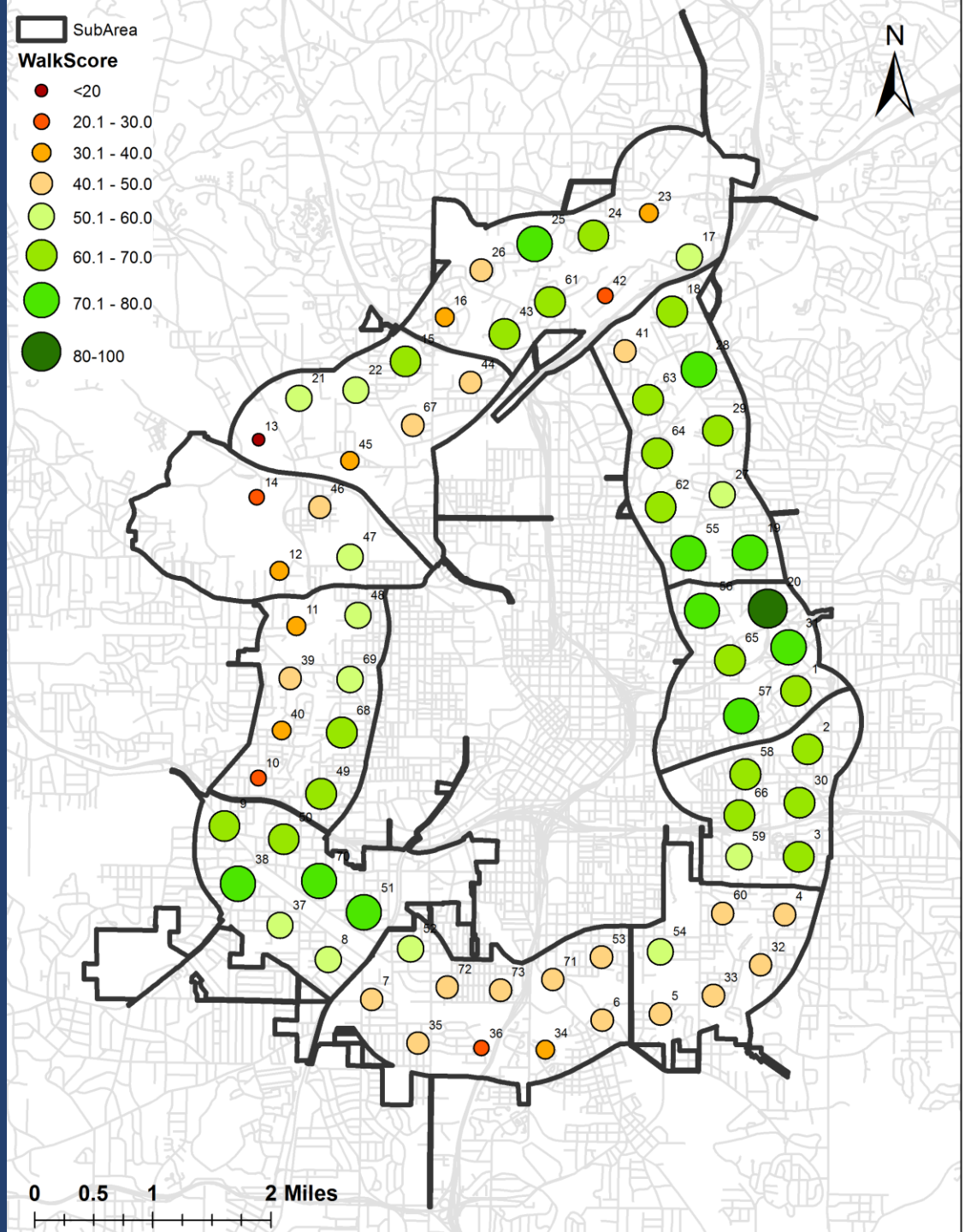
Continuous Data -- Sampling Points

- Metric reach
- Travel time to Five Points using MARTA
- Walkability
- Distance from major park or trail
- Supermarket distance



Walkability Score

- Distance to
  - Grocery store
  - Restaurants
  - Coffee Shops
  - Retail
  - Etc.
- Number of instances



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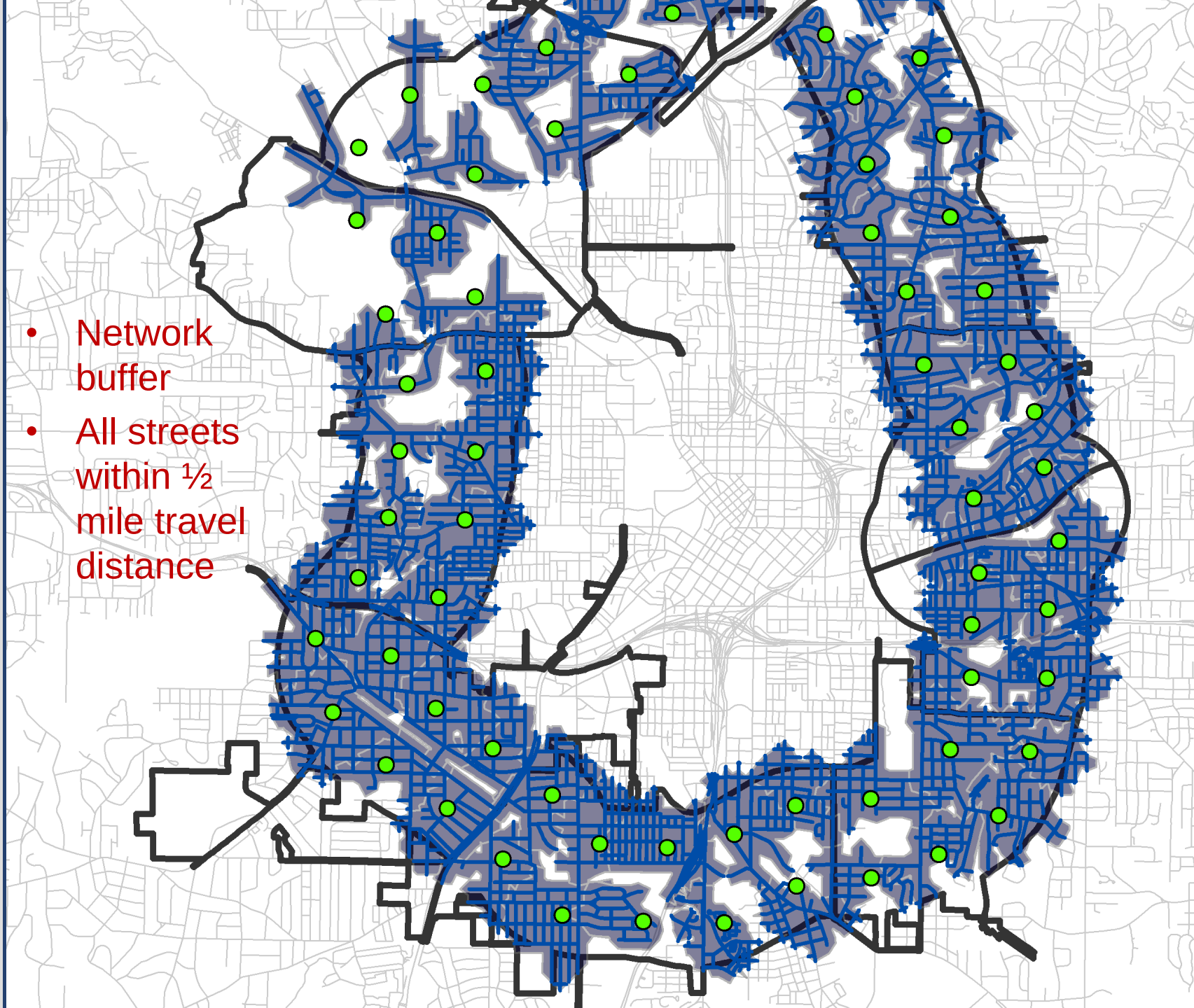
Metric Reach



- Network buffer
- All streets within ½ mile travel distance

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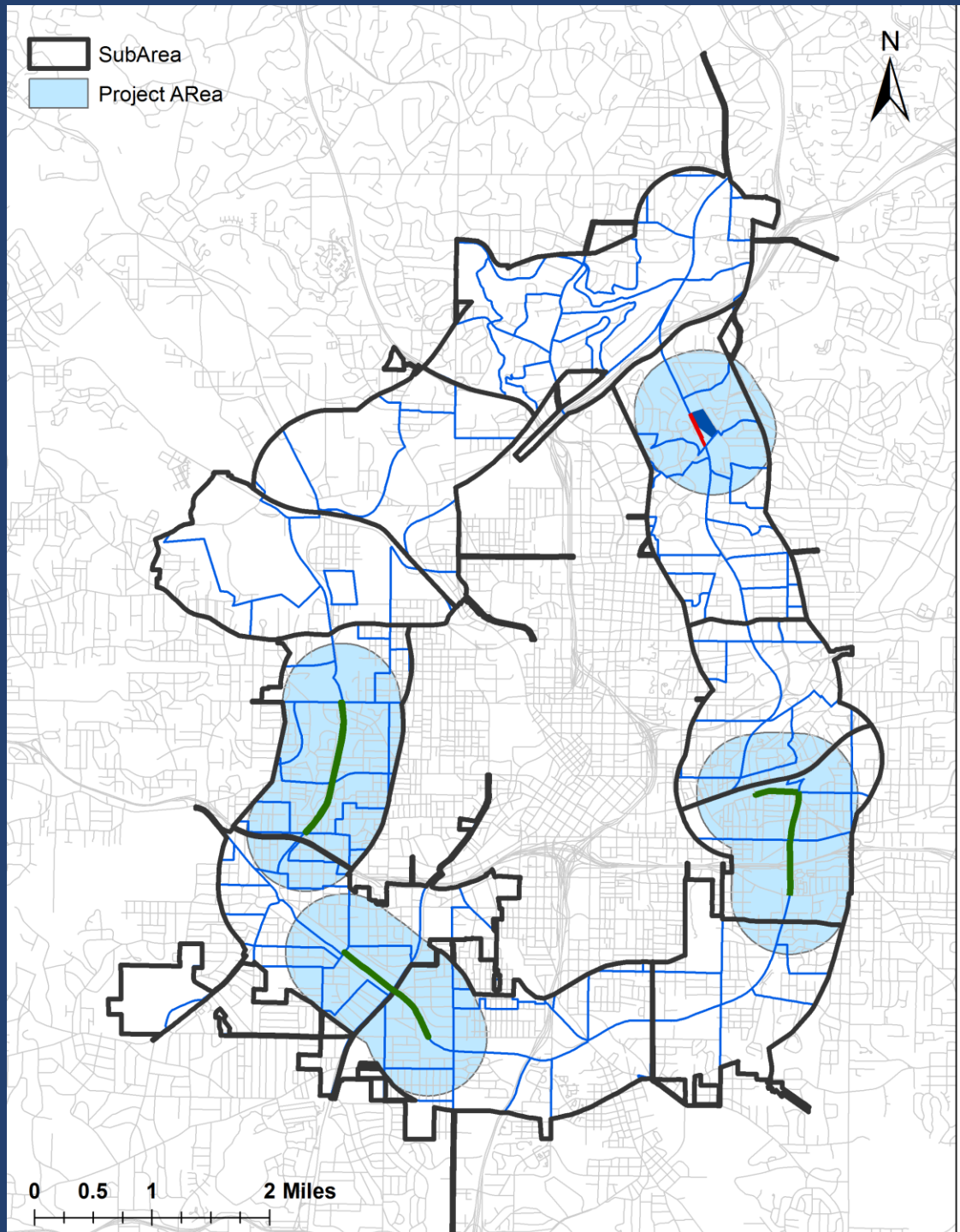
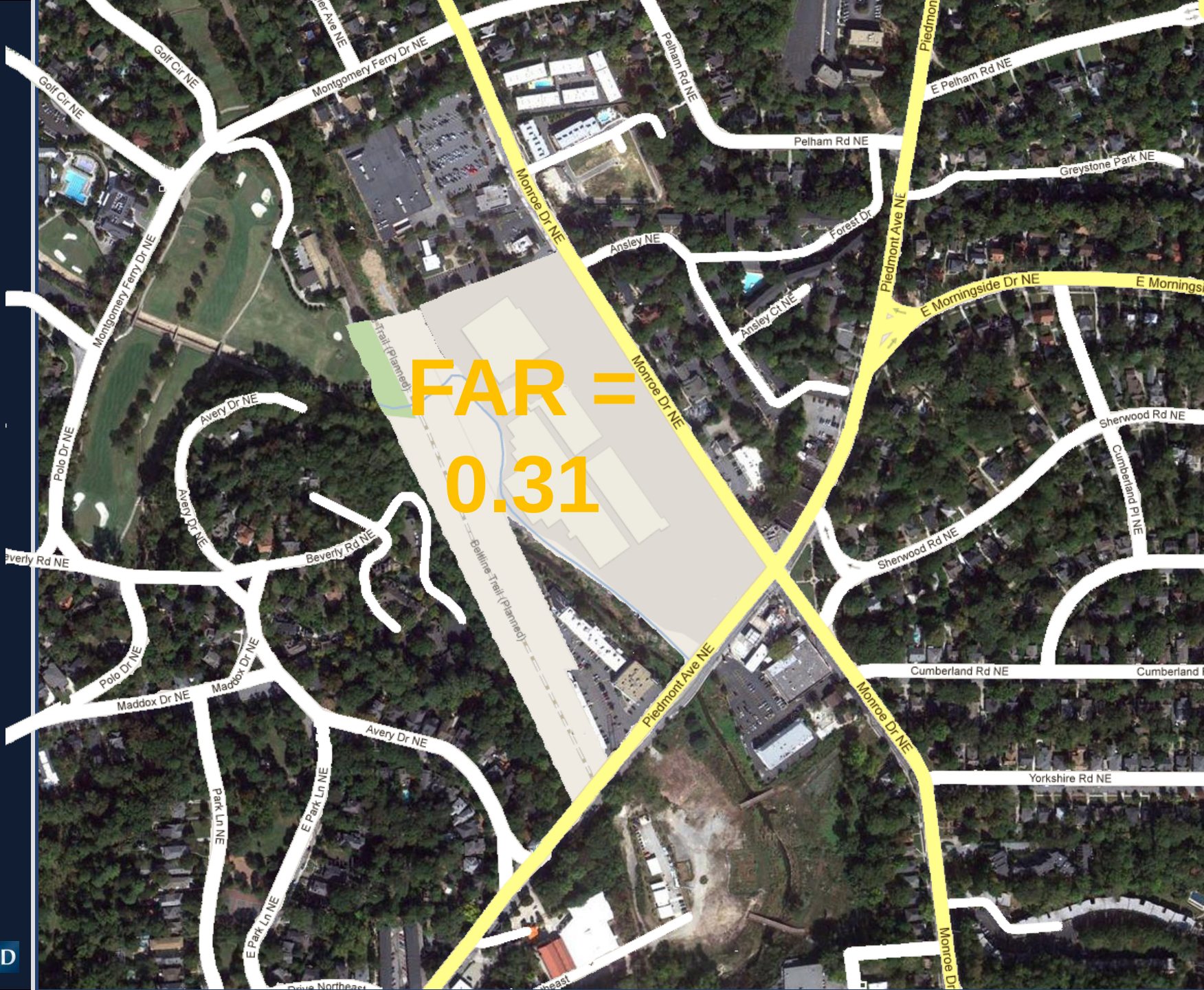
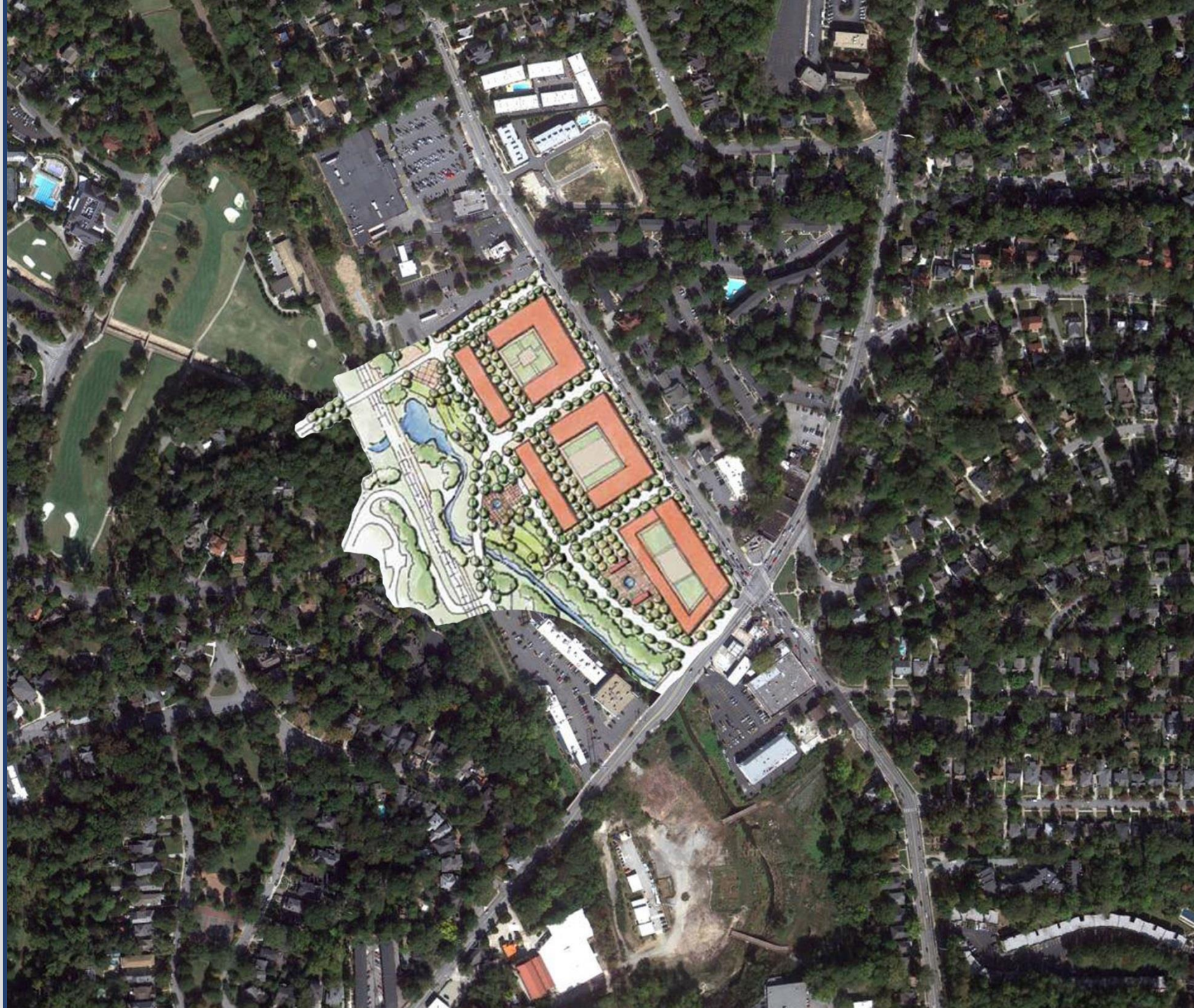
Application to Project Areas

½ mile buffer around each project



Ansley Mall Planned Redevelopment


FAR =
0.31
Golf Cir NE
Montgomery Ferry Dr NE
Pelham Rd NE
E Pelham Rd NE
Monroe Dr NE
Piedmont Ave NE
Greystone Park NE
Forest Dr
Ansley NE
Ansley Ct NE
E Morningside Dr NE
Sherwood Rd NE
Cumberland Pl NE
Cumberland Rd NE
Yorkshire Rd NE
Polo Dr NE
Avery Dr NE
Beverly Rd NE
Maddox Dr NE
Park Ln NE
E Park Ln NE
Beltline Trail (Planned)



Visual Output of Analysis

Condition	Accessibility				Healthy, Active Living				Economic Vibrancy				Greenspace & Environment			
	Street connectivity	Prevalence of sidewalk network	Uncongested roads (LOS = C or better)	Travel speed via transit	Walkability	Physical activity	Safety (few crimes)	Proximity to healthy food	Income	Employment	Retail & industrial activities	Educational achievement	Access to greenspace & trails	% canopy cover	Environmental sustainable design	Water quality
1-Subarea Background	33	96	56	54	63	74	80	70	91	38	42	96	89	75		60
2-Project Area Background	28	92	40	56	70	79	86	70	95	147	28	94	79	6	50	44
3-Built Project	36	100	39	56	75	88	86	77	97	446	173	94	91	70	90	54
4-Difference from Subarea Background	3.4	3.6	-17.1	1.7	11.8	14.3	6.1	6.6	6.1	408.2	130.6	-2.4	2.2	-4.6	90.0	-6.0
5-Change from Project Area Background	8.0	7.7	-1.3	0.0	5.2	9.7	0.0	7.4	2.1	299.7	145.3	0.0	11.4	64.0	40.0	10.0

Condition	Housing & Community Design				Built Environment & Tax Base				Social & Environmental Equity			
	Housing choice	Health of housing market	Affordability	Density	Tax base	Art & historic preservation	Land use mix (entropy scores)	Compatibility with subarea plans	Minority & special needs populations	Historic expenditures by ABI	Environmental quality	Civic engagement
1-Subarea Background	93	92	82	67	90		59		17		53	
2-Project Area Background		93	82	52	69	50	58	50	17		40	50
3-Built Project	94	97	81	392	241	50	58	100	17		44	90
4-Difference from Subarea Background	0.6	4.9	-0.4	324.9	151.6	50.0	-1.0	100.0	0.4	0.0	-9.2	90.0
5-Change from Project Area Background	93.8	3.3	-0.9	340.1	172.5	0.0	0.0	50.0	0.4	0.0	3.9	40.0

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Assessment Criteria and Presentation

Category	Category Weight	Metric	Metric Weight
Accessibility	10	Street connectivity	25
		Prevalence of sidewalk network	25
		Uncongested roads (LOS = C or better)	25
		Travel speed via transit	25
Healthy, Active Living	10	Walkability	25
		Physical activity	25
		Safety (few crimes)	25
		Proximity to healthy food	25
Economic Vibrancy	10	Income	25
		Employment	25
		Retail & industrial activities	25
		Educational achievement	25
Greenspace & Environment	10	Access to greenspace & trails	25
		% canopy cover	25
		Environmental sustainable design	25
		Water quality	25
Housing & Community Design	10	Housing choice	25
		Health of housing market	25
		Affordability	25
		Density	25
Built Environment & Tax Base	10	Tax base	25
		Art & historic preservation	25
		Land use mix (entropy scores)	25
		Compatibility with subarea plans	25
Social & Environmental Equity	10	Minority & special needs populations	25
		Historic expenditures by ABI	25
		Environmental quality	25
		Civic engagement	25

	Accessibility				Healthy, Active Living			
	Street connectivity	Prevalence of sidewalk network	Uncongested roads (LOS = C or better)	Travel speed via transit	Walkability	Physical activity	Safety (few crimes)	Proximity to healthy food
1	46	96	86	70	67	70	28	83
2	41	95	79	70	42	81	34	59
3	36	96	94	61	46	74	73	70
4	49	96	81	83	63	74	63	75
5	42	98	82	86	72	89	60	82
6	33	96	56	54	63	74	80	70
7	18	87	71	44	53	71	83	32
8	22	91	59	48	44	46	73	46
9	22	89	73	62	40	82	82	70
10	40	94	60	81	49	79	14	77

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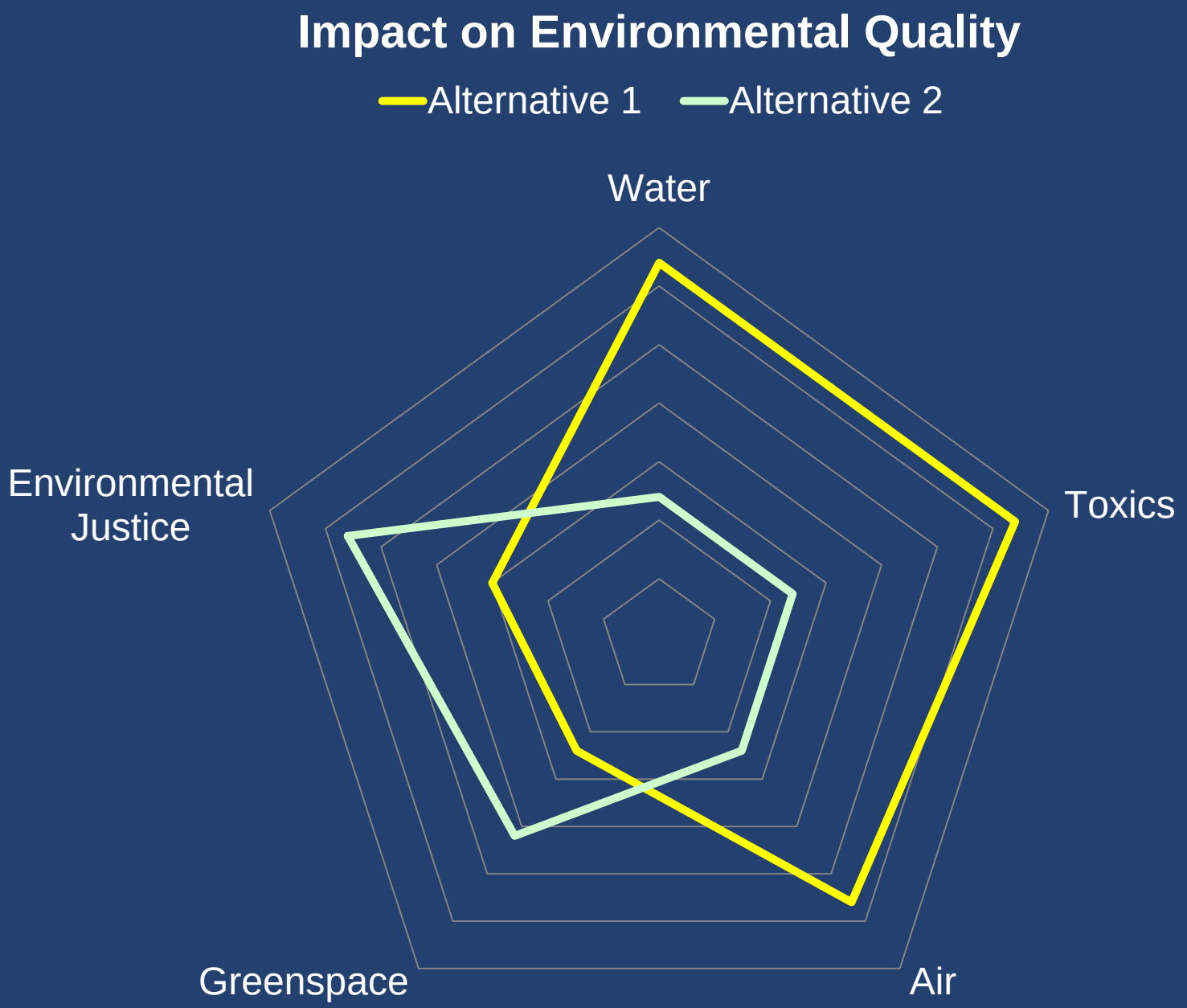
				Healthy, Active Living				
Project Name	Alt. #		Condition	Walkability	Physical activity	Safety (few crimes)	Proximity to healthy food	In
East Side Trail,	1	4	1-Subarea Background	63	74	63	75	
	1		2-Project Area Background	65	80	70	92	
	1		3-Built Project	68	82	70	92	
	1		4-Difference from Subarea Background	5.1	8.1	7.3	16.9	
	1		5-Change from Project Area Background	3.2	1.9	0.0	0.0	
West End Trail,	2	10	1-Subarea Background	49	79	14	77	
			2-Project Area Background	49	76	12	75	
			3-Built Project	50	80	12	75	
			4-Difference from Subarea Background	1.0	0.8	-2.1	-1.7	
			5-Change from Project Area Background	0.5	3.5	0.0	0.0	
West End Trail,	3	1	1-Subarea Background	67	70	28	83	
			2-Project Area Background	58	77	-7	90	
			3-Built Project	59	81	-7	90	
			4-Difference from Subarea Background	4.7	5.5	-38.0	19.2	
			5-Change from Project Area Background	1.3	4.1	0.0	0.0	

Accessibility	Healthy, Active Living	Economic Vibrancy	Greenspace & Environment	Housing & Community Design	Built Environment & Tax Base	Social & Environmental Equity	Overall
77	69	51	45	80	36	24	54
79	77	54	50	85	46	29	60
81	78	54	67	85	59	39	66
3.1	9.4	3.6	33.9	5.1	41.1	26.8	17.6
1.5	1.3	0.0	17.1	0.7	13.3	10.0	6.3
69	55	29	60	68	39	60	54
73	53	28	58	69	43	43	52
75	54	28	69	69	55	53	58
6.0	-0.5	-1.0	23.4	1.1	36.1	23.1	12.6
2.1	1.0	0.0	11.2	0.6	12.8	10.0	5.4
75	62	41	58	68	52	61	59
74	55	43	52	67	50	39	54
76	56	43	68	68	63	49	60
3.0	-2.2	6.1	28.0	-0.1	37.3	21.0	13.3
1.5	1.4	0.0	15.7	0.6	12.8	10.0	6.0
60	72	67	75	83	74	35	67
55	76	91	45	57	57	27	58
59	82	203	76	166	112	38	105
-1.3	9.7	135.6	20.4	82.5	75.2	20.3	48.9
3.9	5.6	111.8	31.3	109.1	55.6	11.1	46.9

1-Subarea Background
2-Project Area Background
3-Built Project
4-Difference from Subarea Background
5-Change from Project Area Background

CQGRD

Visualization Tool: Impact



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Concluding Remarks

Thank you.

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