

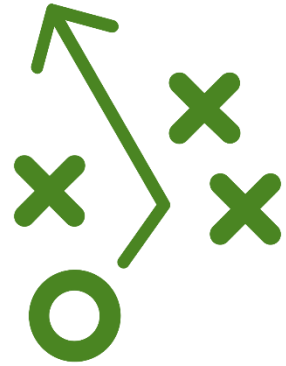


City of Charlotte COMMUNITYVIZ MODEL FOR COMPREHENSIVE PLAN GROWTH SCENARIOS

MAY 6, 2019



**LAUNCHING
PAD**



**SCENARIO PLANNING
PLAYBOOK**



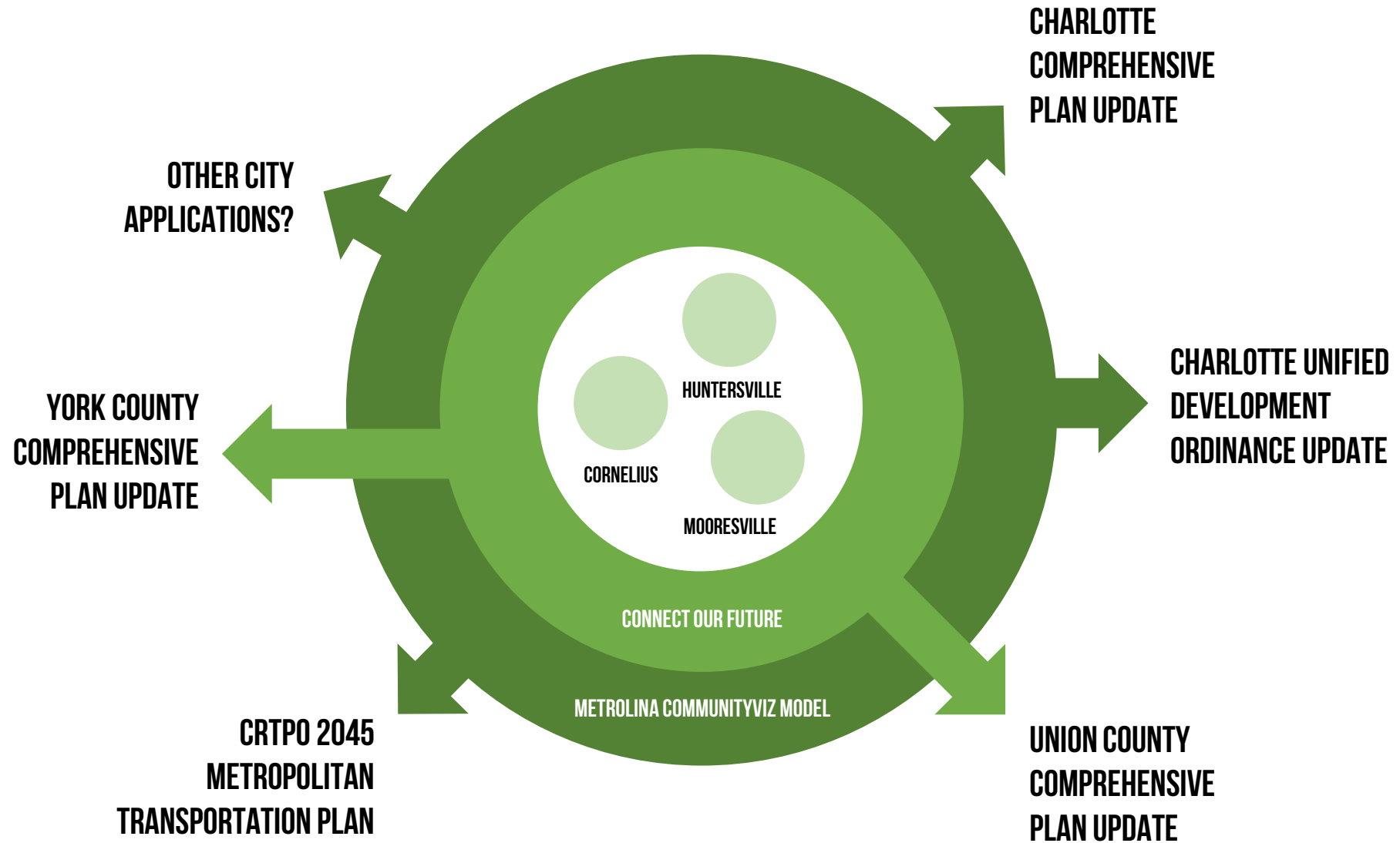
**SCENARIO PLANNING
DATA & TOOLS**



**CONNECT
THE DOTS**

USE OUR TIME WISELY THIS AFTERNOON

LAUNCHING PAD



CONTINUING THE LEGACY...

**OUR ROLE IS TO HELP OTHERS
MAKE MORE INFORMED DECISIONS
ABOUT THEIR FUTURE.**



WHAT WE WERE TAUGHT LONG AGO AS PROFESSIONALS:

DECIDE...

through research and analysis

EDUCATE...

stakeholders about the solution

ANNOUNCE...

the plan and its recommendations

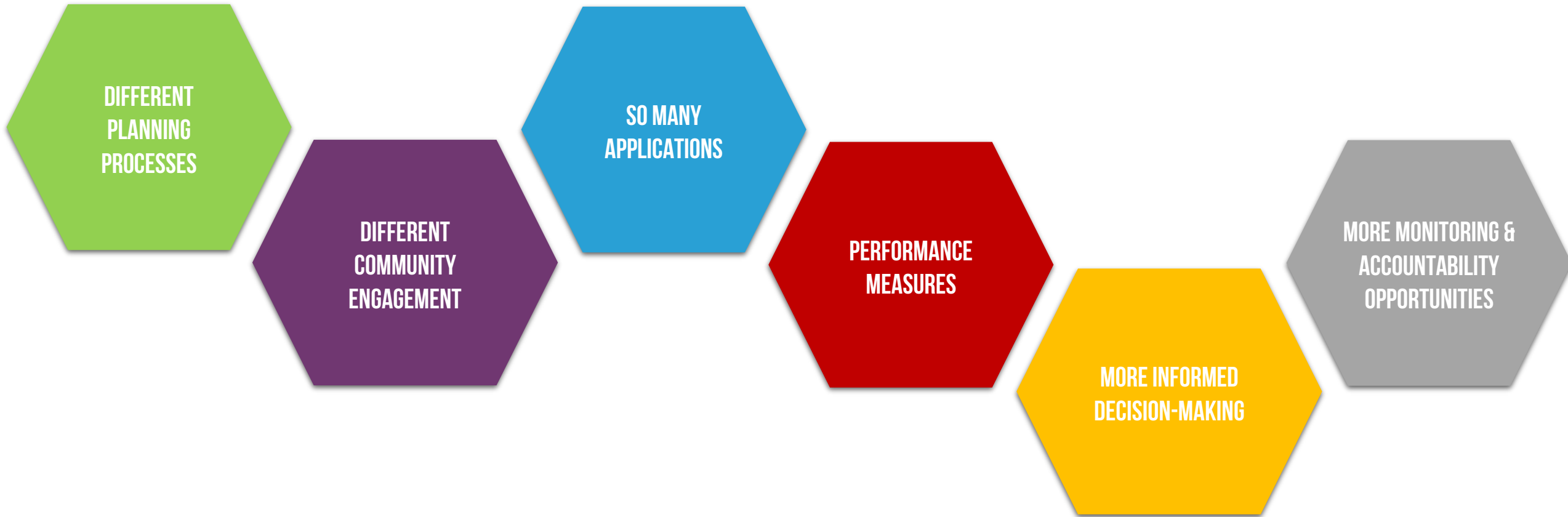
DEFEND...

the process and the plan

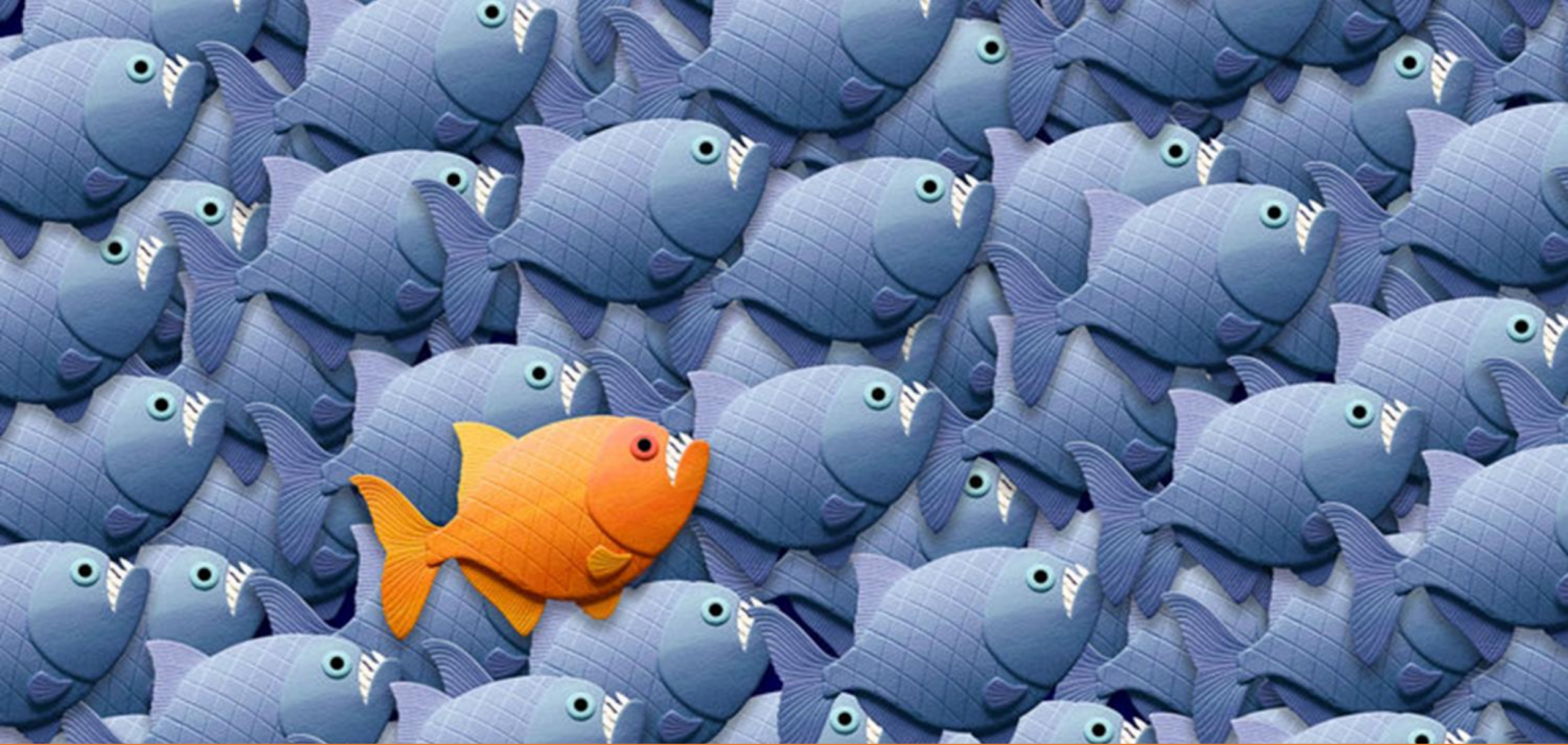


SINGLE, PLAUSIBLE FUTURE FOR A PLACE

ALL THE REASONS I LIKE SCENARIO PLANNING...

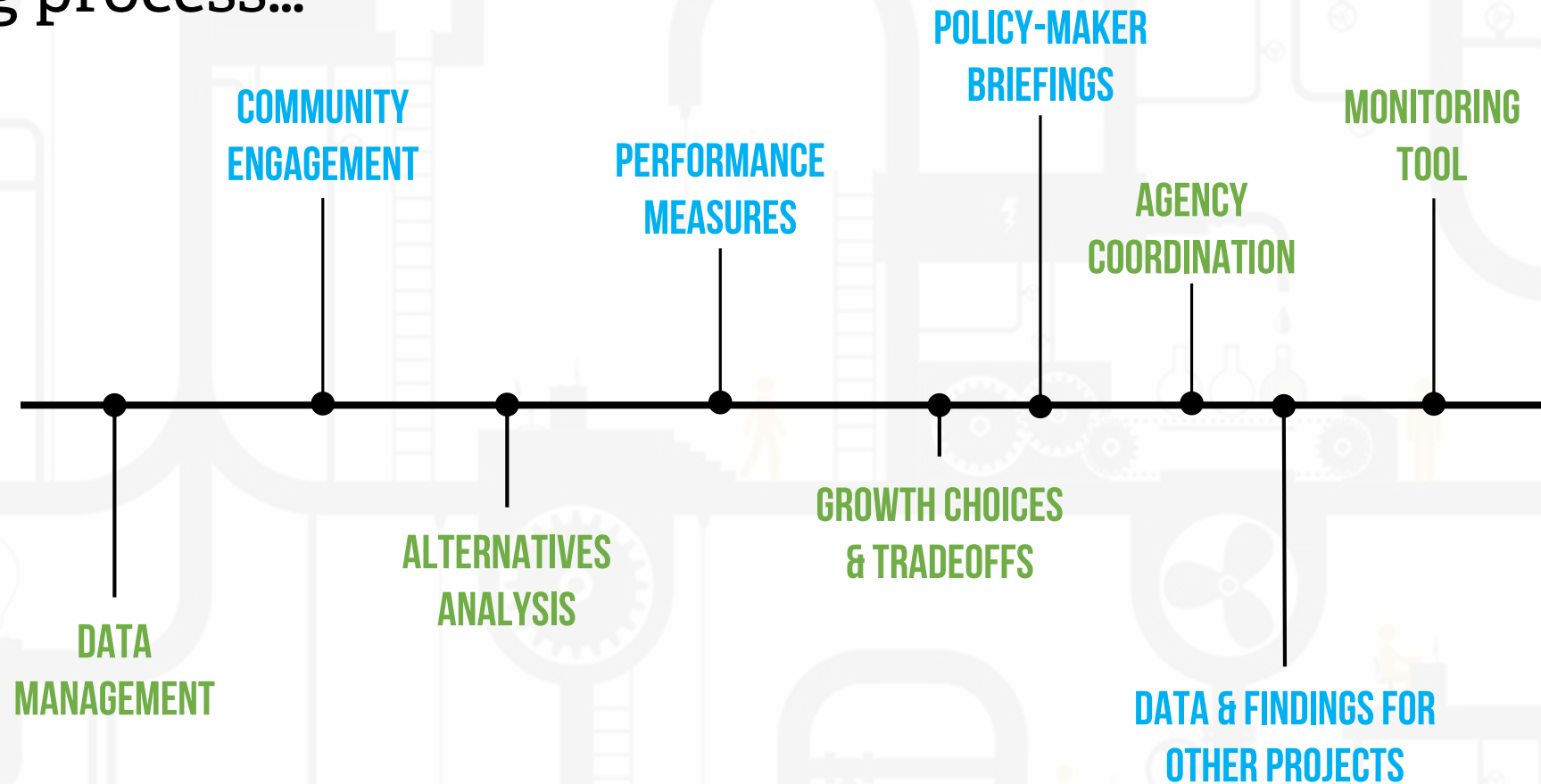


MULTIPLE, PLAUSIBLE FUTURES FOR A PLACE



MULTIPLE, PLAUSIBLE FUTURES FOR A PLACE

Scenario planning becomes the spine for the comprehensive planning process...



MAKE **MORE-INFORMED DECISIONS** ABOUT OUR FUTURE

SCENARIO PLANNING PLAYBOOK

Principle Driven



Data Driven



PRINCIPLE & DATA APPROACHES FOR THE PLAN

Scenario planning tries to bridge the gap between the principles of the plan & the data needed to make more informed decisions about the future.



PRINCIPLE & DATA APPROACHES FOR THE PLAN

THEME. STORY. MAP. ANALYSIS.

PERFORMANCE. REPORTING.

REPEAT

GENERAL APPROACH TO **CREATING GROWTH SCENARIOS**

BIG QUESTIONS FOR THE GROWTH SCENARIOS

1. Do the stories told by the growth scenarios represent reasonable choices & trade-offs for the planning area?
2. Are we pushing some of the options far enough to effectively evaluate different impacts under the planning themes?
3. What could make the concepts more impactful as scenarios studied for the comprehensive plan?
4. What did we miss, or what needs to change, before moving forward with a preferred growth scenario?

HOW ARE THE SCENARIOS THE SAME?



Planning Area



Anticipated Growth



Available Place Types

HOW ARE THE SCENARIOS DIFFERENT?



Development Types



Development Locations



Development Patterns



Development Intensities



Supporting Infrastructure



Conservation Measures



MAKE **MORE-INFORMED DECISIONS** ABOUT THE FUTURE



In God we trust, but
for everyone else,
bring your data.

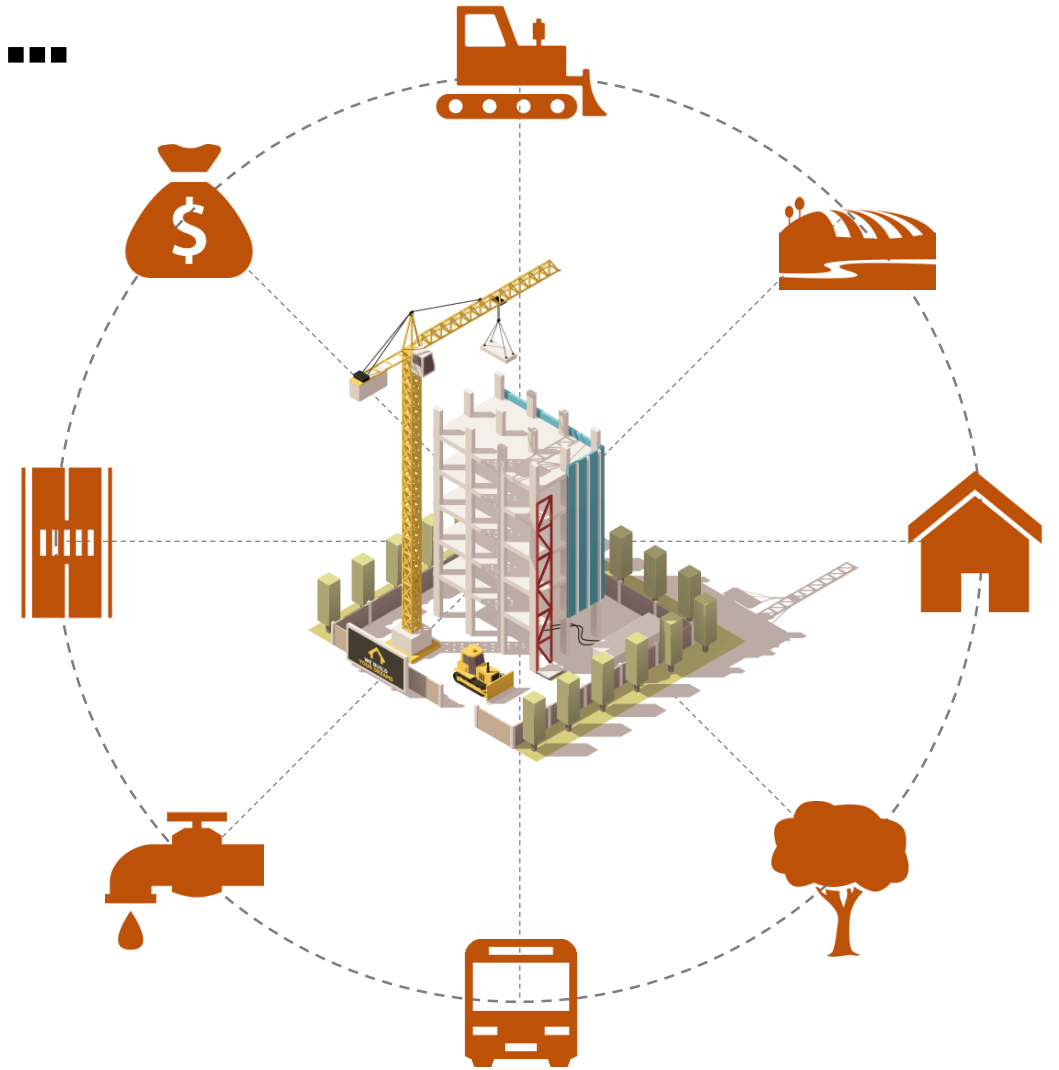
— Mayor Michael Bloomberg

MAKE MORE-INFORMED DECISIONS ABOUT THE FUTURE

GAINING A BRIGHTER SPOTLIGHT...



If (), Then (), Else ()



MAKE **MORE-INFORMED DECISIONS** ABOUT THE FUTURE

PLANNING WITH PERFORMANCE MEASURES...

DESCRIBE.

LAND USE PROFILE
DEVELOPMENT STATUS
POPULATION
EMPLOYMENT
DWELLING UNITS
SQUARE FEET

IMPACTS.

WATER
SEWER
TRANSPORTATION
HOME CHOICES
CONSERVATION IMPACTS

PERFORMANCE.

SUSTAINABILITY
FISCAL IMPACTS
QUALITY-OF-LIFE
ECONOMIC VITALITY

MAKE **MORE-INFORMED DECISIONS** ABOUT THE FUTURE

PLANNING WITH PERFORMANCE MEASURES...



EXISTING DEVELOPMENT



COMMITTED DEVELOPMENT



FUTURE DEVELOPMENT POTENTIAL



FULL BUILD-OUT POTENTIAL

MAKE **MORE-INFORMED DECISIONS** ABOUT THE FUTURE



WEIGHING OPTIONS WITH **ALTERNATIVE GROWTH SCENARIOS**



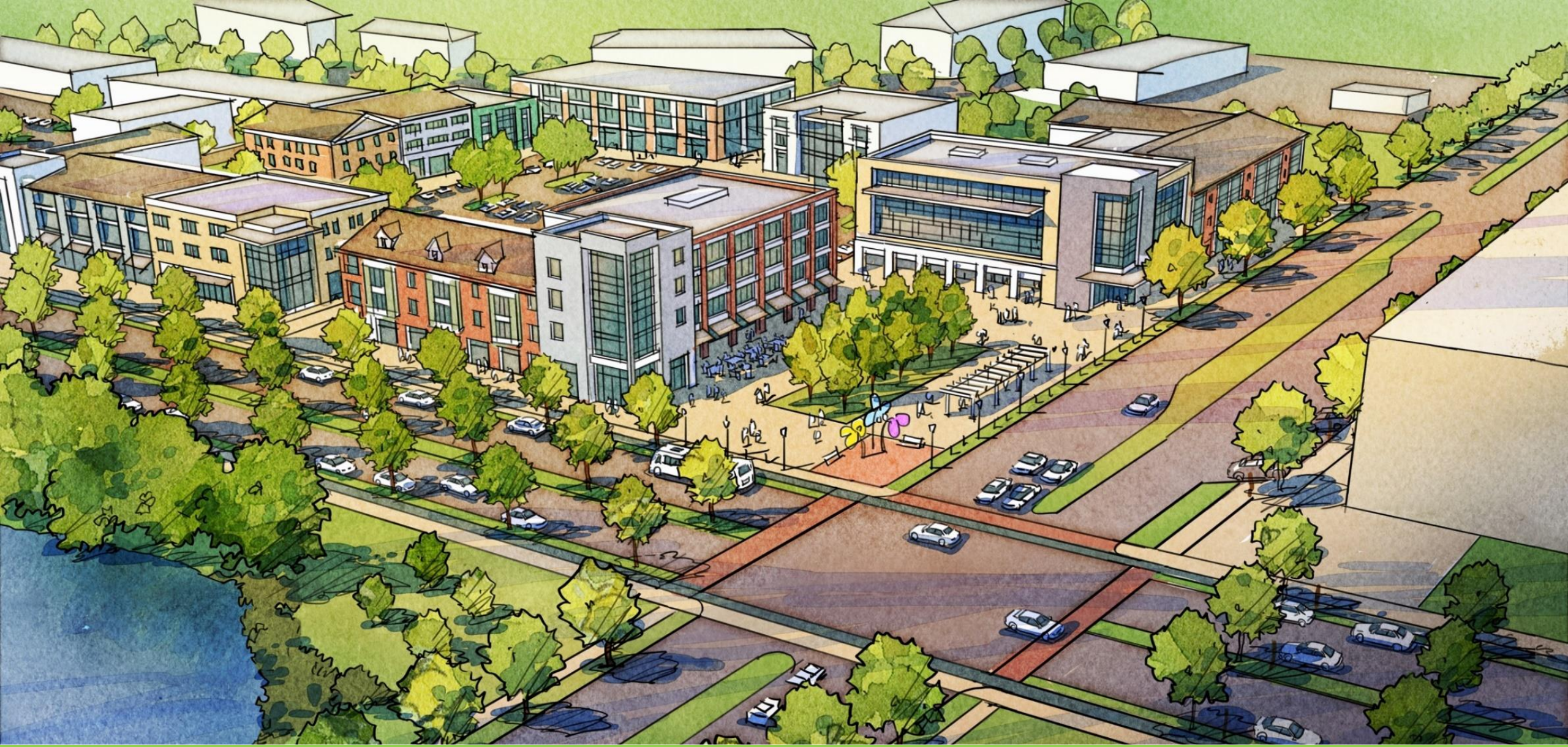
WEIGHING OPTIONS WITH **ALTERNATIVE GROWTH SCENARIOS**



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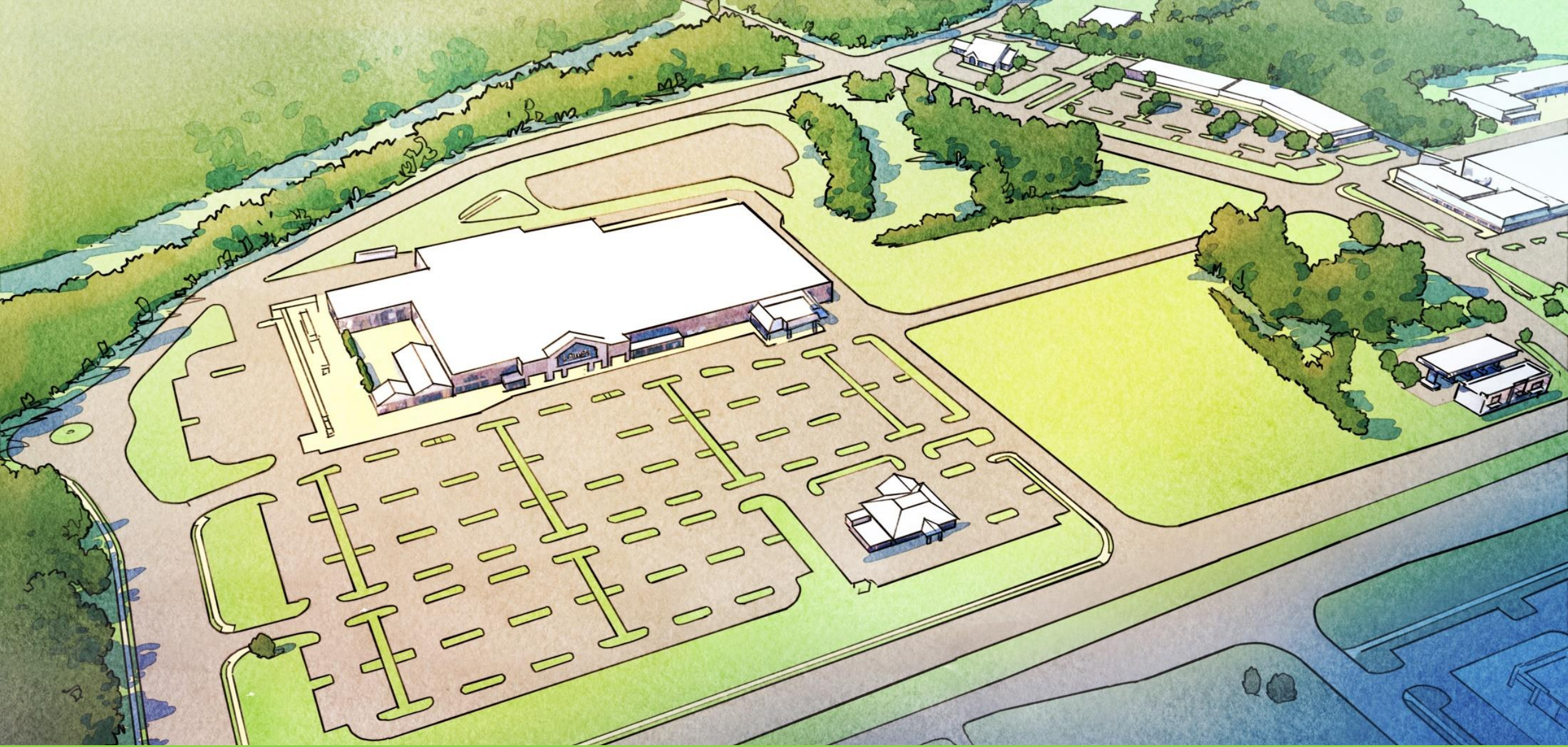
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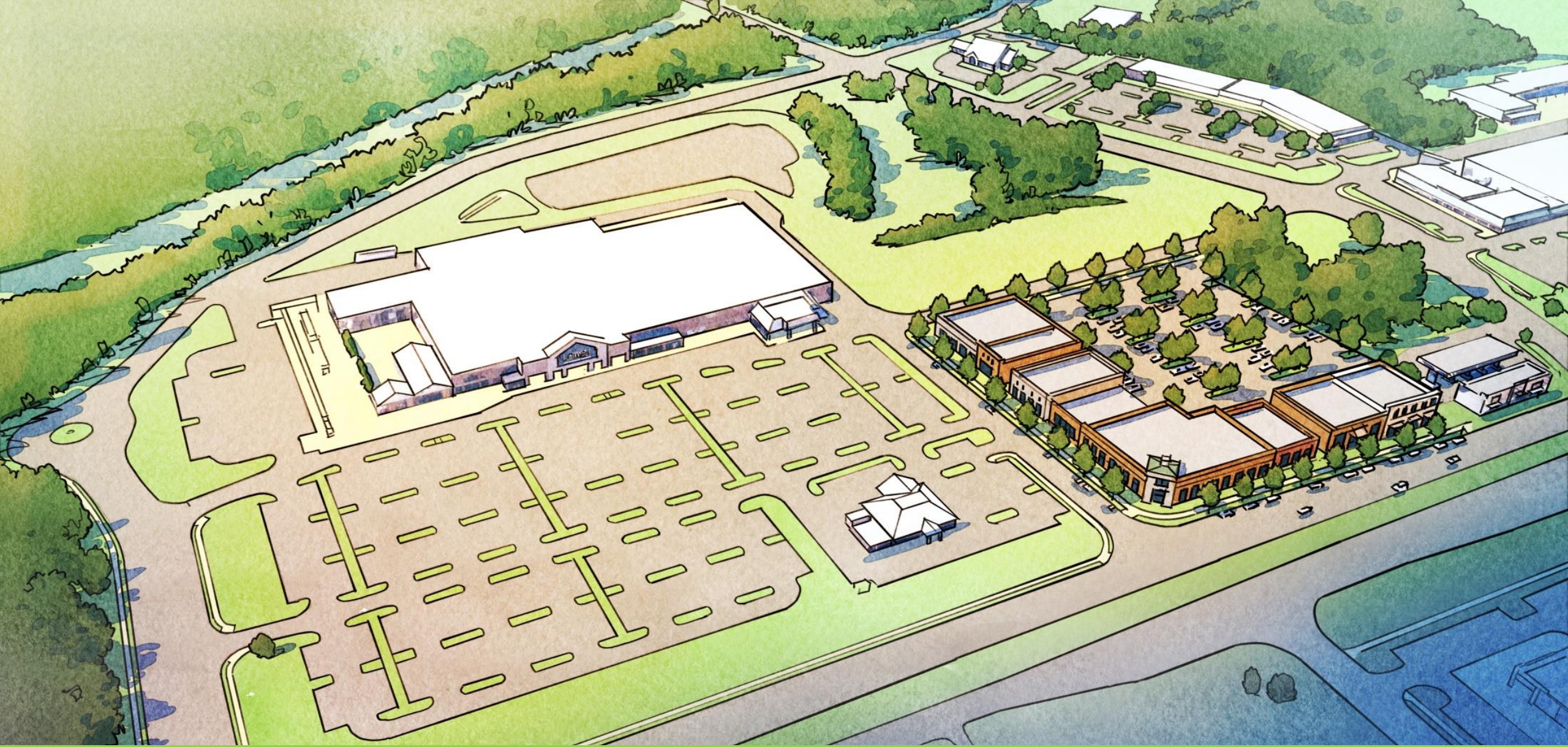
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WEIGHING OPTIONS WITH **ALTERNATIVE GROWTH SCENARIOS**

SCENARIO PLANNING MODEL & TOOLS



CITY OF CHARLOTTE COMMUNITYVIZ MODEL

COMMUNITYVIZ SOFTWARE



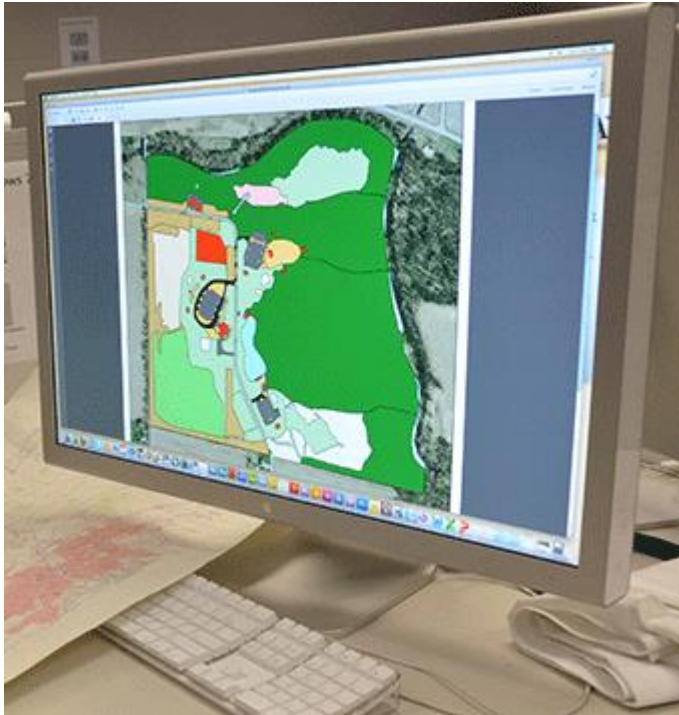
WORK IN PROGRESS

**We apologise for any
inconvenience caused**

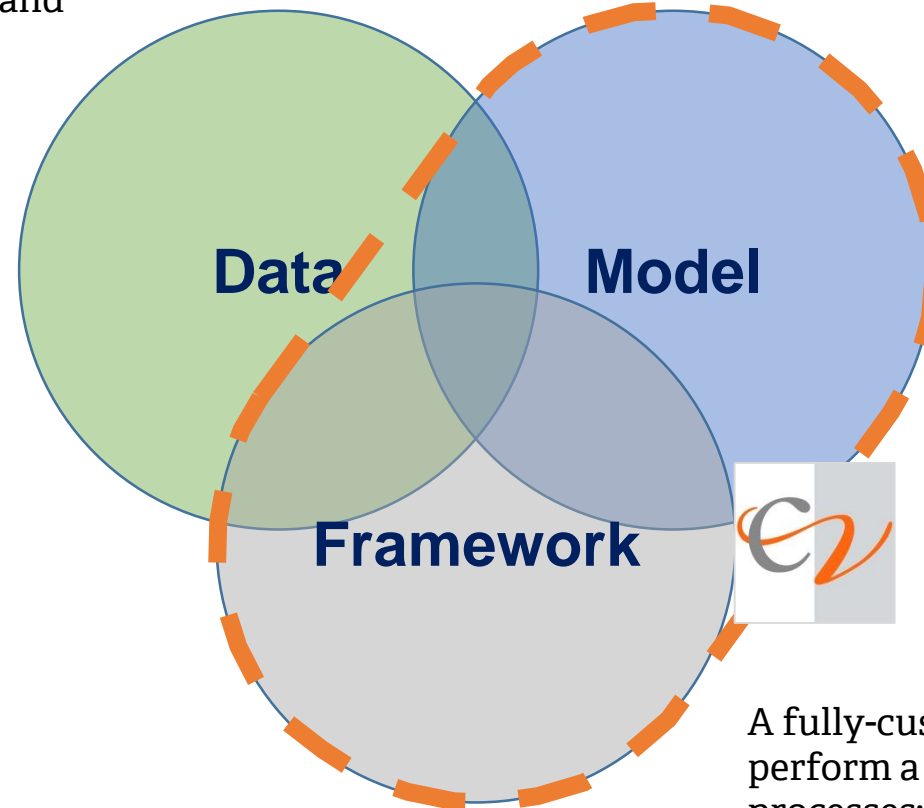
**TE
ITYVIZ**

COMMUNITYVIZ SOFTWARE

Inputs or outputs for a specific tool; generally static information that needs to be localized and calibrated.



A pre-defined schema that requires specific data to run pre-wired equations in a tool. Output is limited to existing features included in the tool.



A fully-customizable tool that can perform a variety of analytical processes; limited only by available data and user expertise.

CHARLOTTE COMMUNITYVIZ MODEL: WIRELESS FRAMEWORK



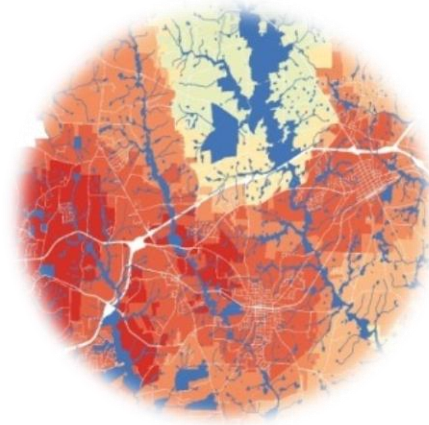
Carrying Capacity Analysis

The area of a parcel identified with one or more development constraints (e.g., SWIM buffers, recorded easements, etc.). These areas are 'off the table' for allocating new growth in subsequent phases of the model.



Development Status Assignments

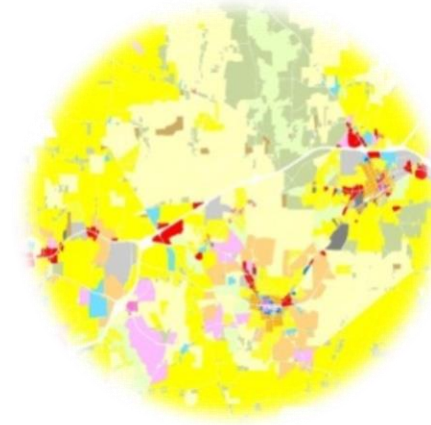
The assignment of development status to parcels in CommunityViz tells the model which set of equations to use for estimating development yield (build-out potential), and whether new growth is allowed in the parcel.



Land Suitability Analysis

LSA measures the attractiveness of individual parcels to accommodate new development. Physical features prevalent in the study area were layered on a parcel map, and calculations performed to determine either percent overlap or physical proximity (as appropriate) for each of the physical features in relation to the individual parcels.

A numeric score between 0 – 100 was used to rank parcels in the study area from least- to most-suitable for development.

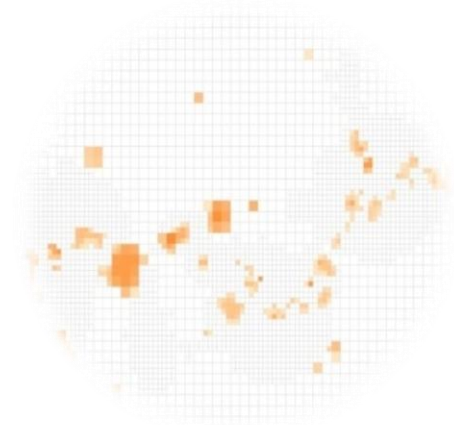


Place Type Assignments & Build-Out Estimates

Place types were used to describe land use and urban form characteristics in the study area.

Build-out potential estimates the development yield for each parcel based on it's assigned development status, place type, & values assumed in the general development lookup table.

Values generated for build-out potential become the 'supply' for allocating future year growth in the study area.



Growth Allocation

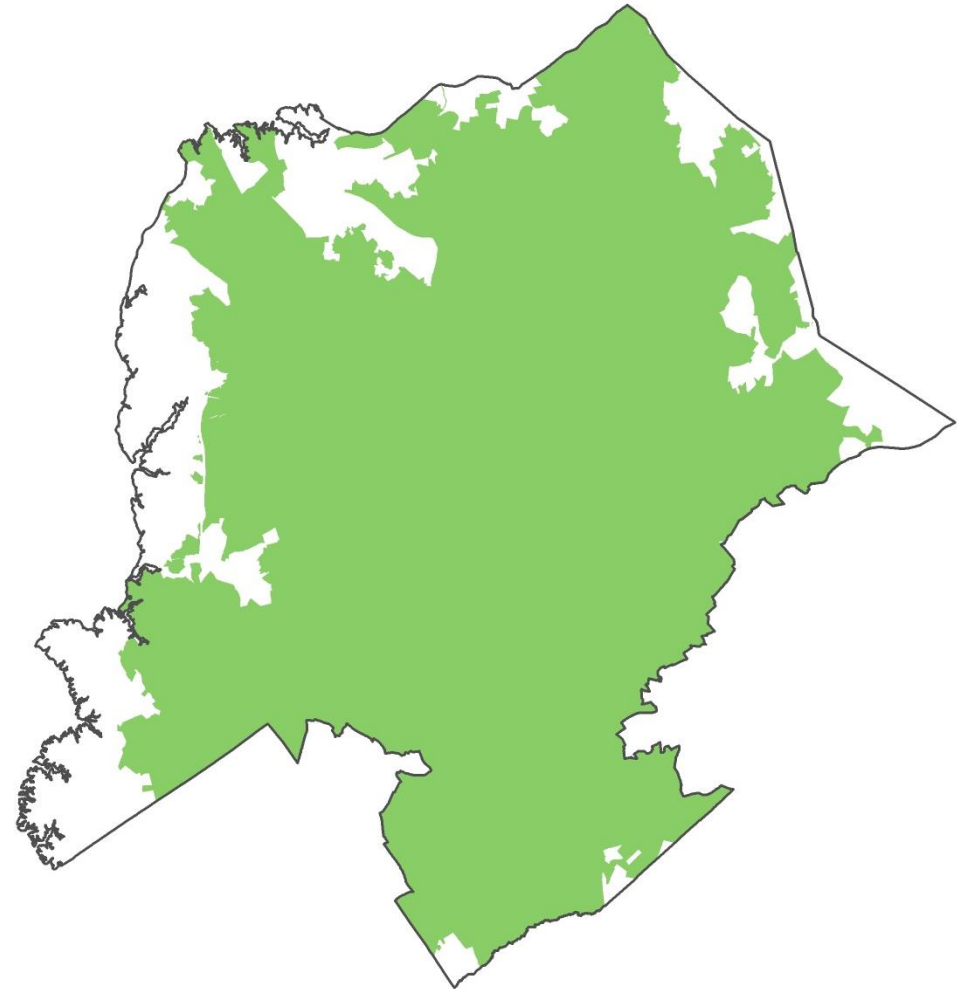
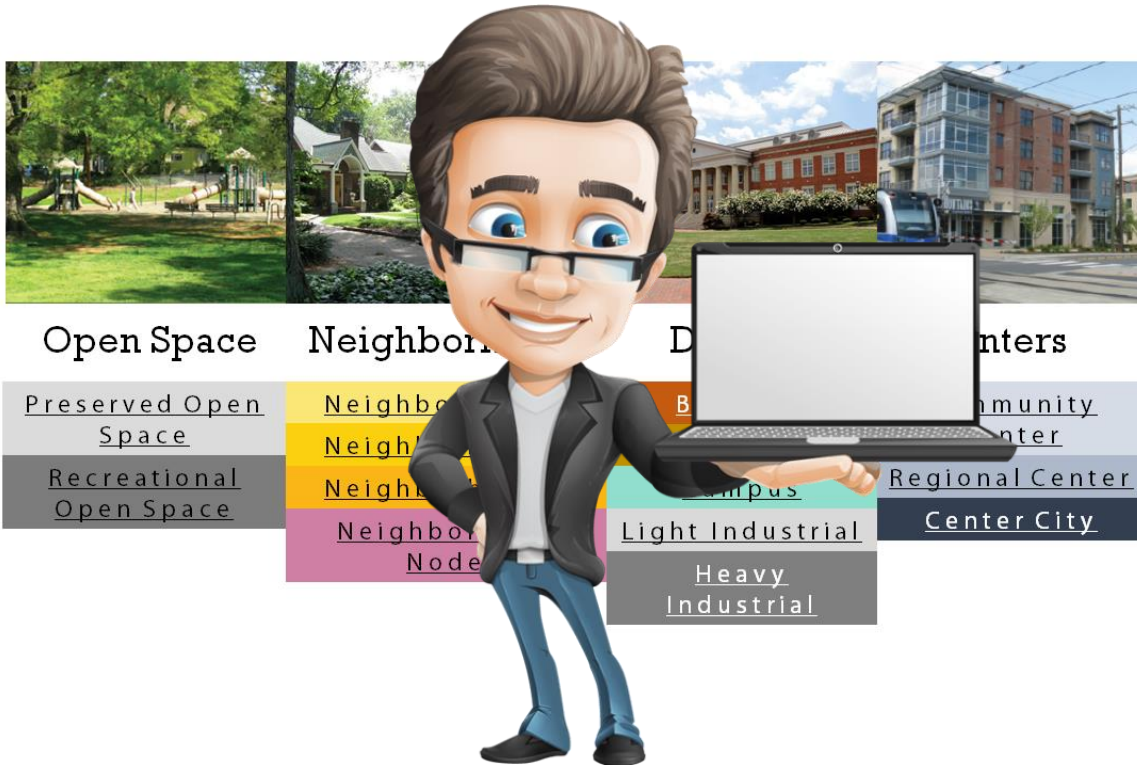
Growth allocation was performed using build-out potential and land suitability statistics calculated for parcels in the study area.

CHARLOTTE COMMUNITYVIZ MODEL: BOTTOM-UP APPROACH

CHARLOTTE + SPHERE OF INFLUENCE

Charlotte's Places

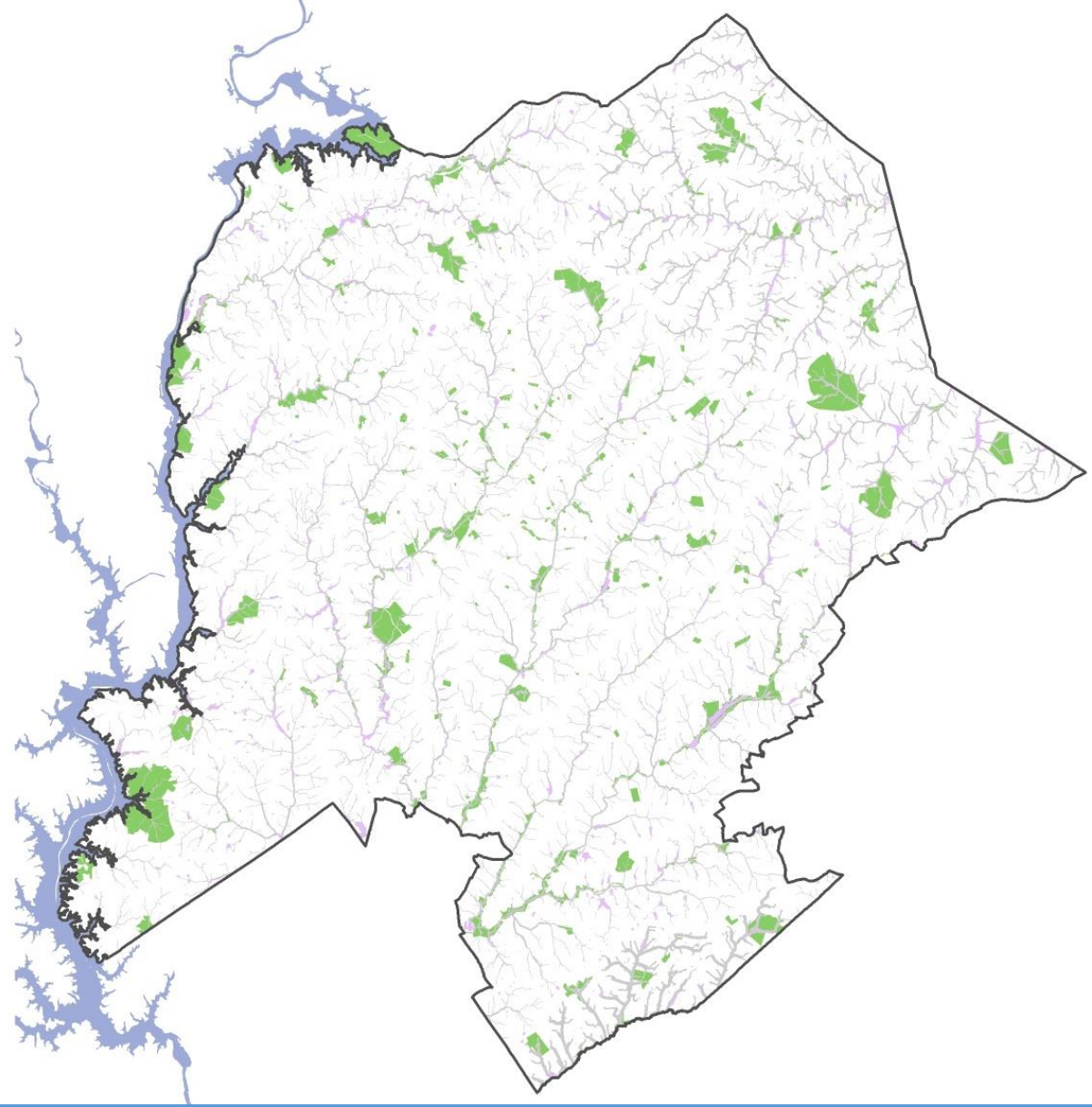
Charlotte's Place Types are organized into four general Places.



275,400 PARCELS

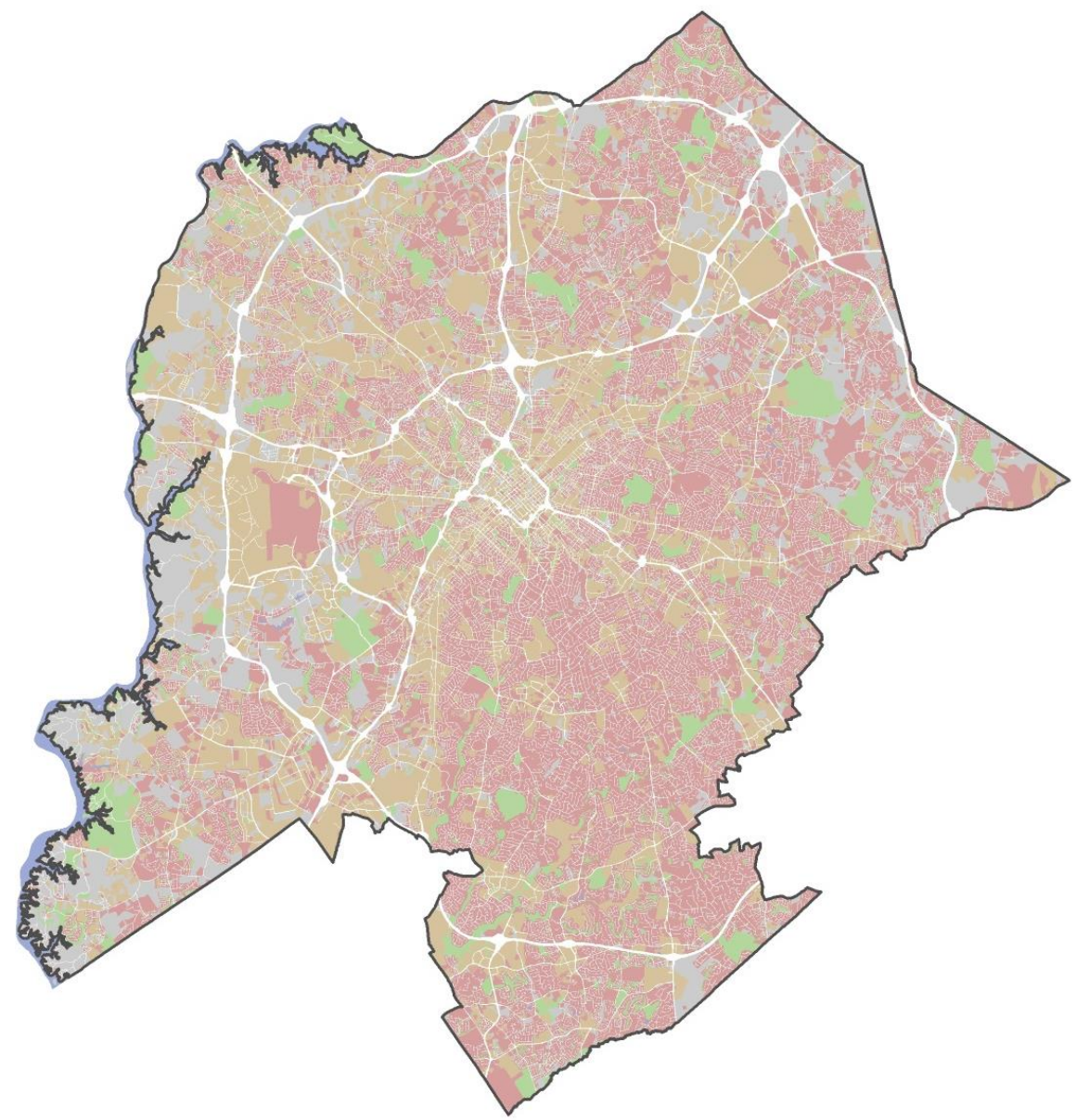
CHARLOTTE COMMUNITYVIZ MODEL: **PLANNING AREA**

Some land in Charlotte will never develop because of physical conditions on the site, land ownership, or the existence of state and local policies that prohibit development. These areas — referred to as “highly-constrained for development” — are removed from the model area to more accurately approximate buildable area in the study area.



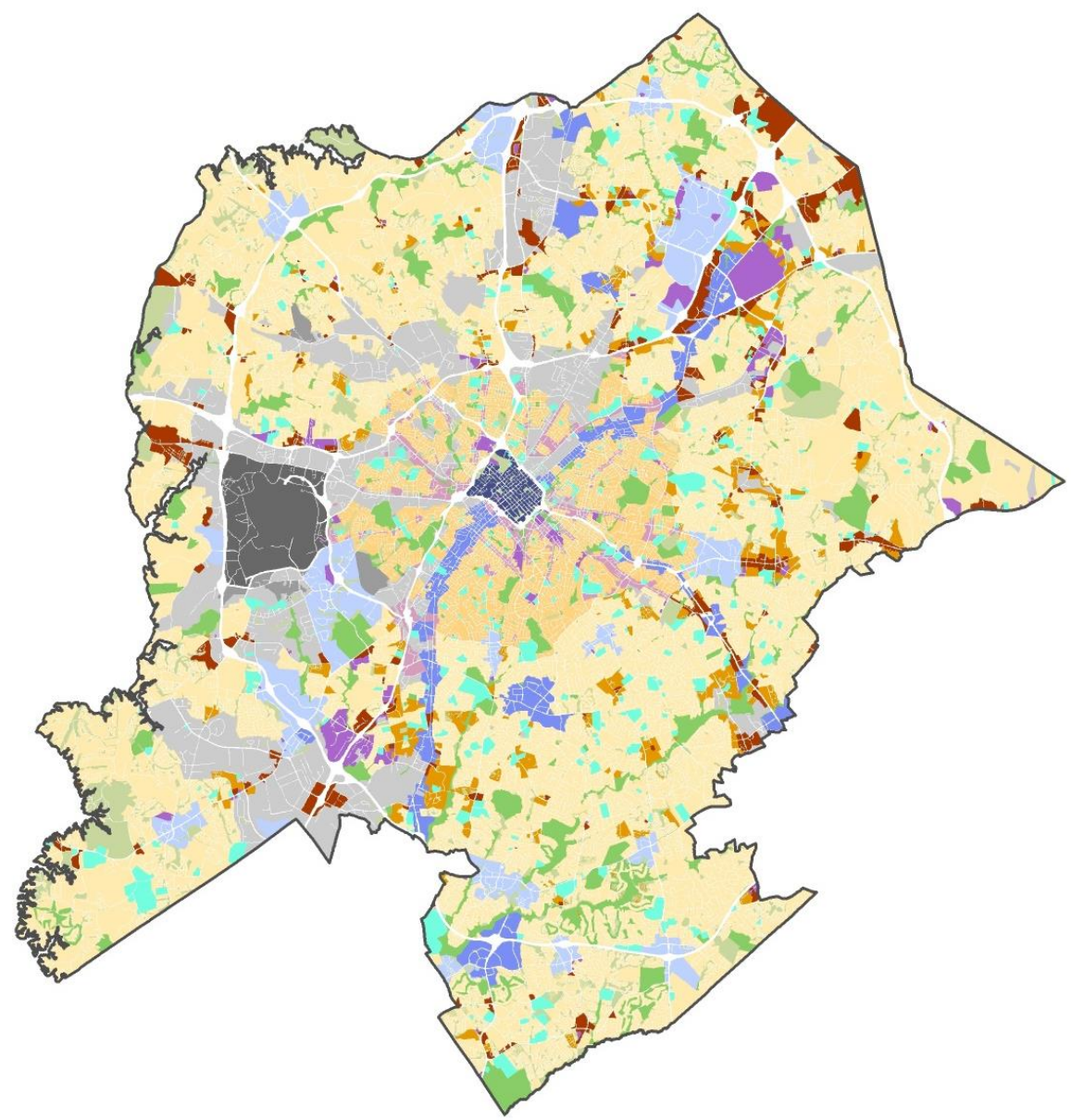
CHARLOTTE COMMUNITYVIZ MODEL: **CARRYING CAPACITY**

Development status in Charlotte tells CommunityViz which set of equations to use for estimating the development yield (build-out potential) of a parcel.



CHARLOTTE COMMUNITYVIZ MODEL: **DEVELOPMENT STATUS**

Place type assignments in Charlotte tell CommunityViz which set of equations to use for estimating the development yield (build-out potential) of a parcel.



CHARLOTTE COMMUNITYVIZ MODEL: **PLACE TYPES**

Table

DEV_LOOKUP

	OBJECTID *	UDO_CAT	UDO_SUB
	1	Open Space	POS
	2	Open Space	ROS
	3	Neighborhood	N1
	4	Neighborhood	N2
	5	Neighborhood	N3
	6	Neighborhood	NN
	7	District	AIR
	8	District	LID
	9	District	HID

Charlotte's Places

Charlotte's Place Types are organized into four general Places.



Open Space	Neighborhoods	Districts	Centers
<u>Preserved Open Space</u>	<u>Neighborhood 1</u>	<u>Business</u>	<u>Community Center</u>
<u>Recreational Open Space</u>	<u>Neighborhood 2</u>	<u>Employment</u>	<u>Regional Center</u>
	<u>Neighborhood 3</u>	<u>Campus</u>	<u>Center City</u>
	<u>Neighborhood Node</u>	<u>Light Industrial</u>	
		<u>Heavy Industrial</u>	

		1	Category A	
		1	Category A	
		1	Category A	
		1	Category A	

CHARLOTTE COMMUNITYVIZ MODEL: LOOKUP TABLES

Some conditions for land in Charlotte warrant different development standards or design considerations than found throughout the place type as-a-whole. These conditions, present in one or more of the place type categories, may influence the type, pattern, or intensity of development where they are present.



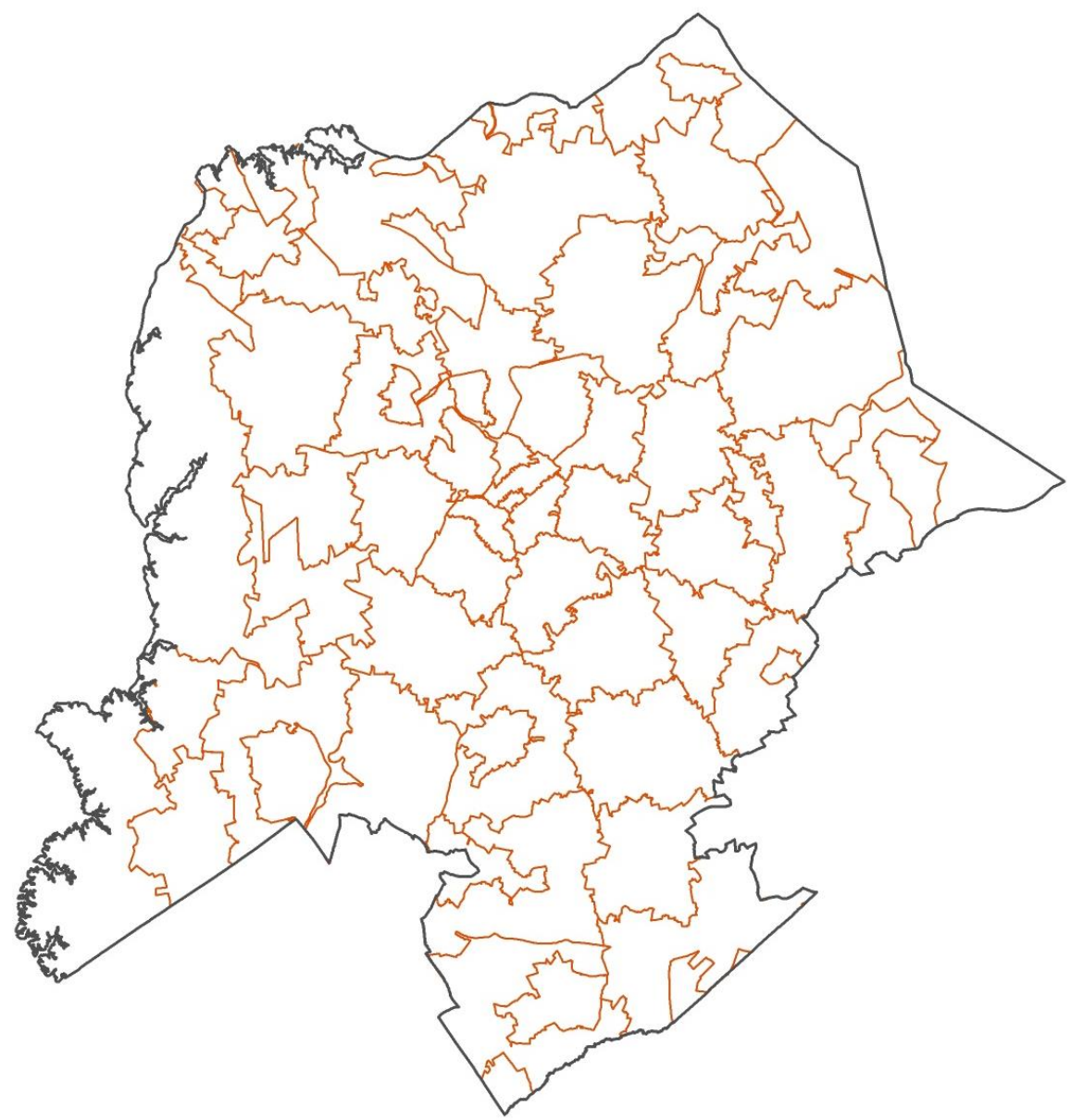
CHARLOTTE COMMUNITYVIZ MODEL: **SPECIAL CONDITIONS**

Some conditions for land in Charlotte warrant different development standards or design considerations than found throughout the place type as-a-whole. These conditions, present in one or more of the place type categories, may influence the type, pattern, or intensity of development where they are present.



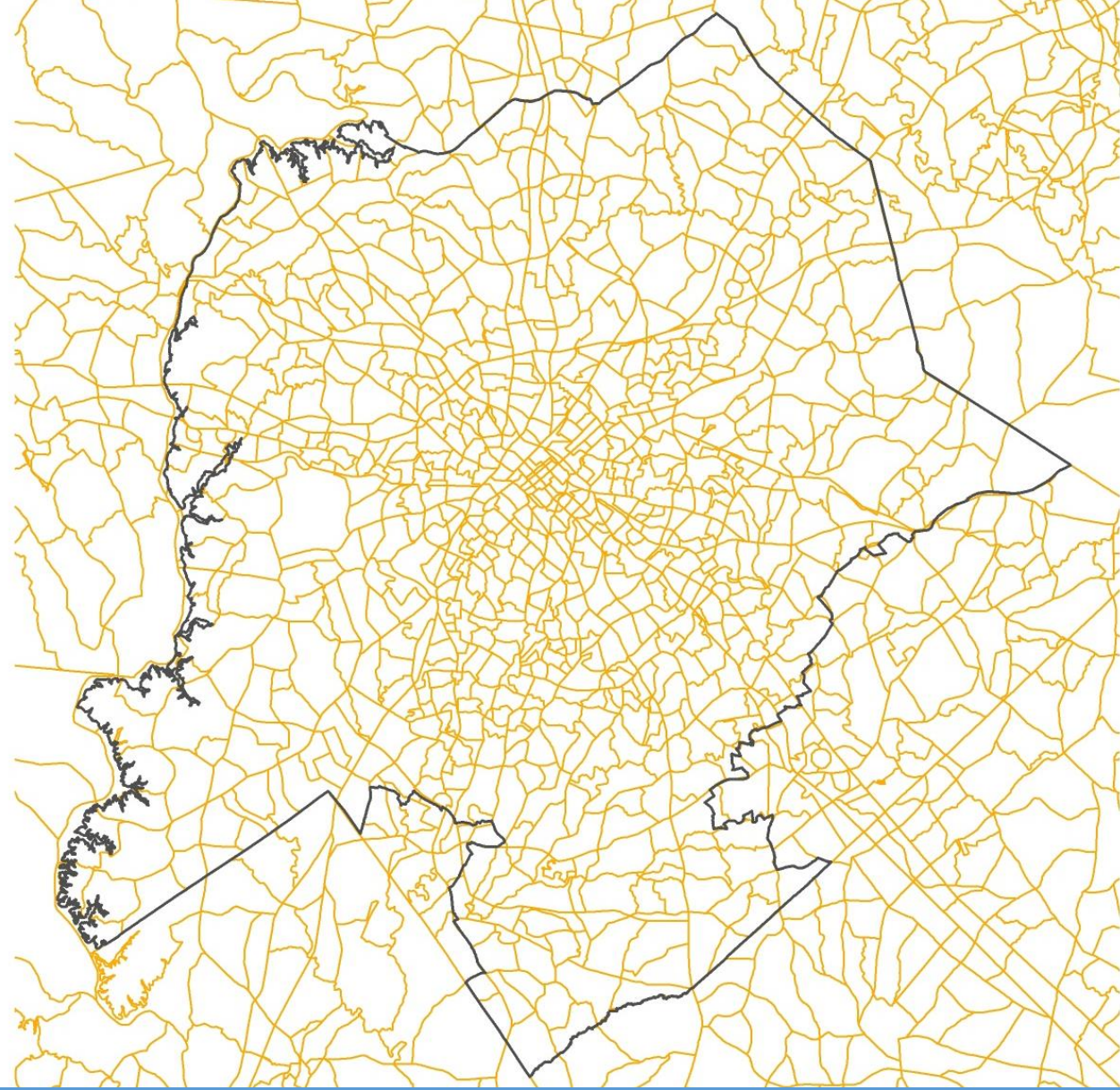
CHARLOTTE COMMUNITYVIZ MODEL: **SPECIAL CONDITIONS**

Performance measures for are created in CommunityViz to quantify impacts and explain the differences between alternative growth scenarios.



CHARLOTTE COMMUNITYVIZ MODEL: **PERFORMANCE MEASURES**

Future year growth is allocated to parcels using pre-defined control total categories and horizon years. The *Metrolina Regional Model* requires all socioeconomic data be organized by traffic analysis zone for its process. Therefore, parcel-level data in CommunityViz (tagged with overlying traffic analysis zone identification number) is summarized into traffic analysis zones using the “summary statistics” tool in ArcGIS software.



CHARLOTTE COMMUNITYVIZ MODEL: **DATA SHARING**

CONNECTING THE DOTS

- **BASE YEAR & FUTURE YEAR SOCIOECONOMIC DATA**
- **WATER & SEWER STUDIES**
- **STORM WATER (FLOOD) ANALYSIS**
- **CATS PLANS & STUDIES**
- **CHARLOTTE MECKLENBURG SCHOOLS**
- **SMALL AREA PLANS**
- **CAPITAL PROJECT PLANNING**
- **PERFORMANCE TRACKING**



ALWAYS LOOKING FOR PARTNERS & PROJECT OPPORTUNITIES



LET'S CHAT