

Cooper, Robertson and Partners

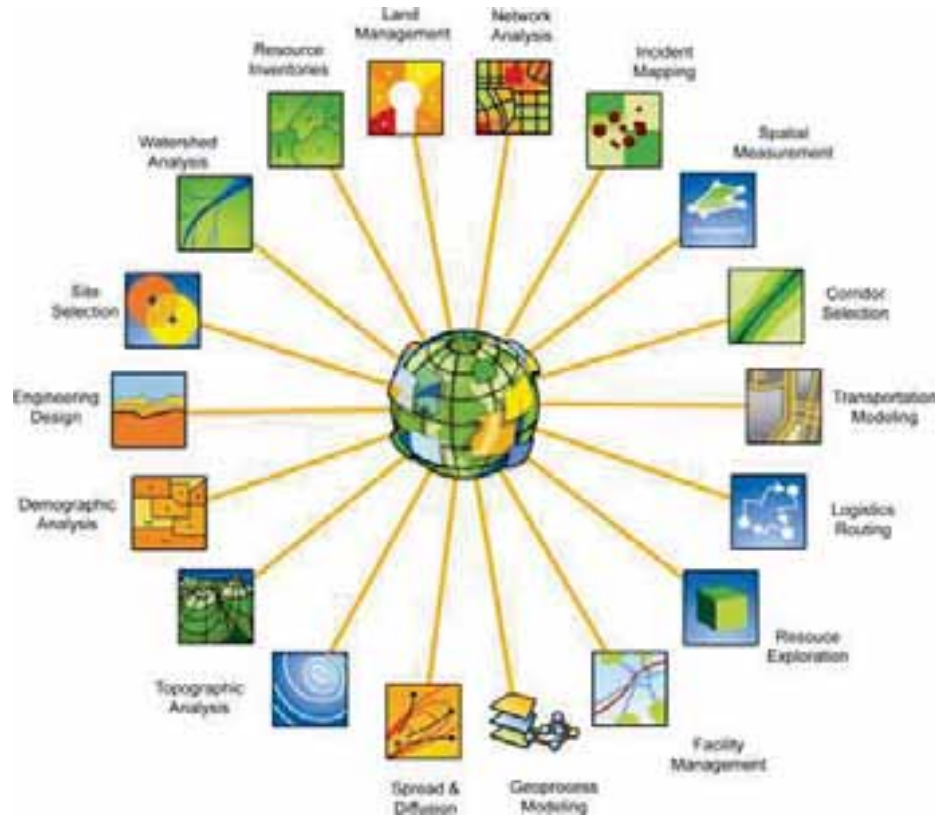
Architecture, Urban Design

Mike Aziz, LEED AP

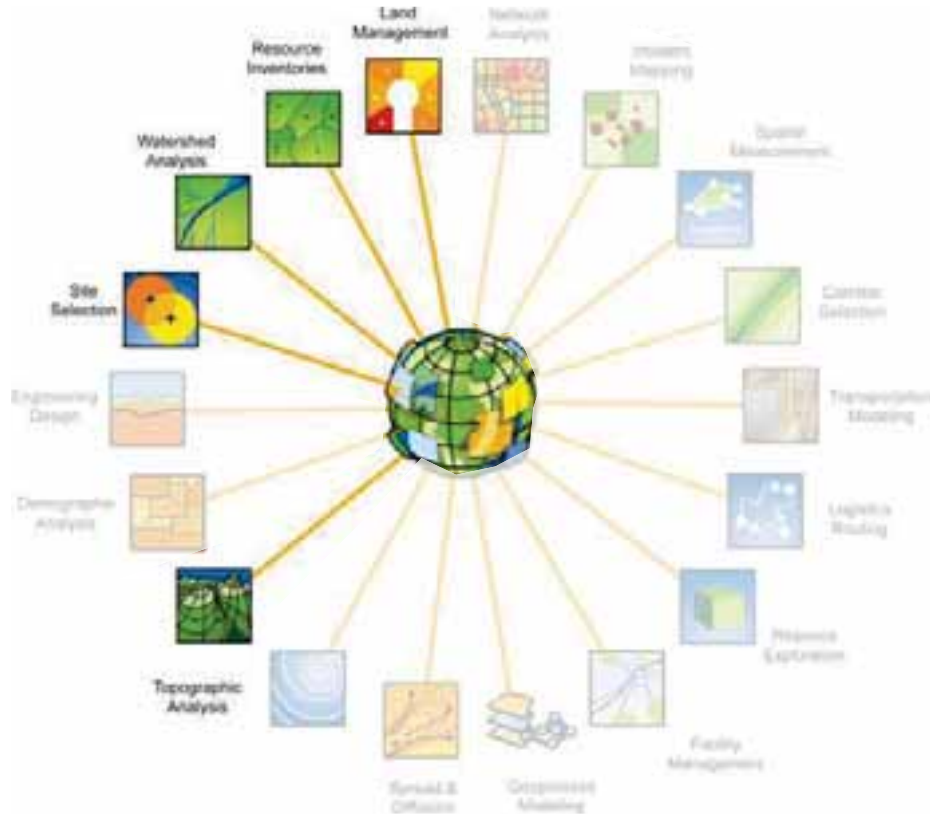
New York, NY



The GIS World



How we use GIS



How we use GIS

1. Base Mapping
2. Landform Analysis
3. Data-Integrated Analysis

Base Mapping

1. Base Mapping

Traditional Base Maps



Limited access



Lack of detail



Insufficient resolution

1. Base Mapping

Traditional Analysis



Time consuming



Inflexible

1. Base Mapping

GIS Base Maps



Increased access



Increased detail



Increased quality

1. Base Mapping

GIS Supported Analysis

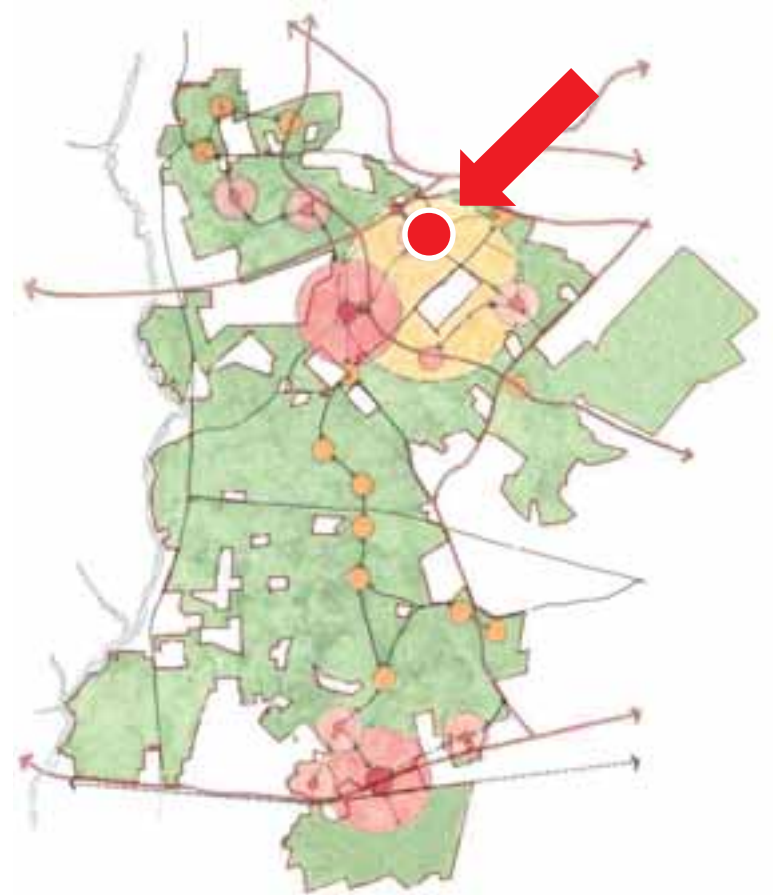


Fast, Flexible, and Easily accessible

Landform Analysis

2. Landform Analysis

East Edisto, SC



2. Landform Analysis

East Edisto, SC

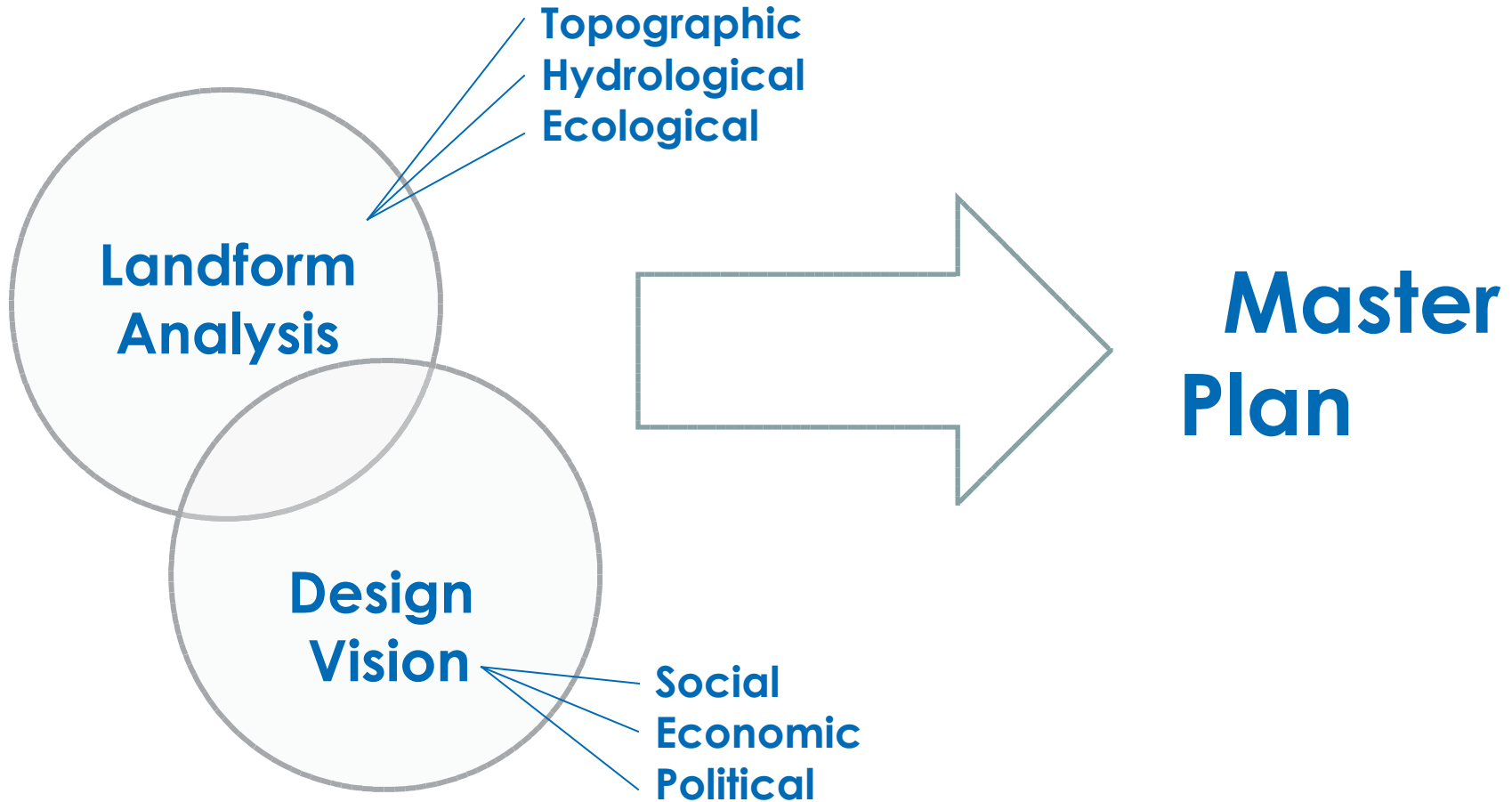


2. Landform Analysis

East Edisto, SC



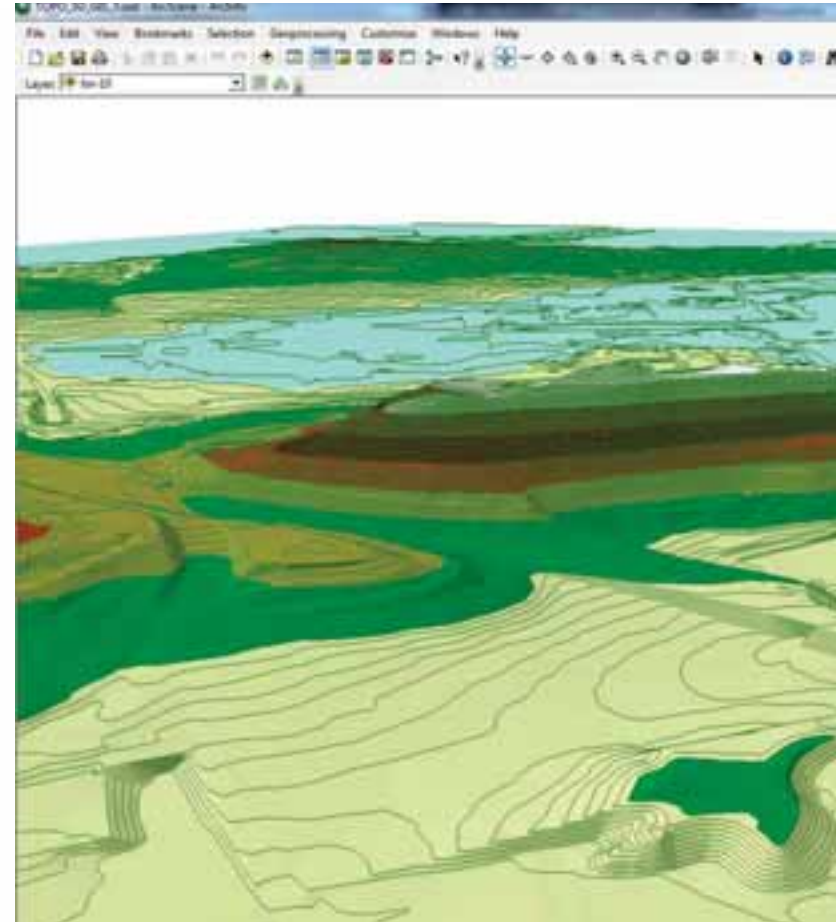
2. Landform Analysis



2. Landform Analysis



Topography Modeling



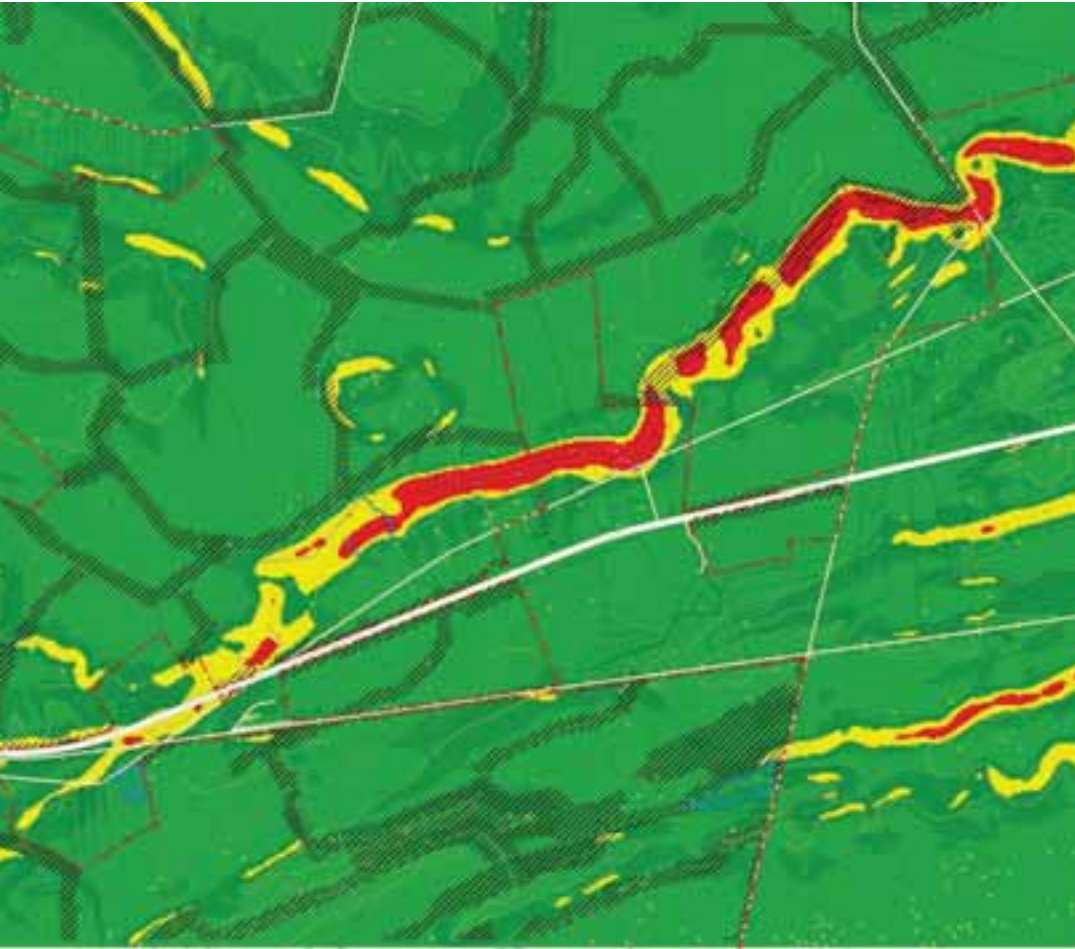
2. Landform Analysis

Topography Modeling





2. Landform Analysis



Slope Analysis

15-30% Small Footprints



0-15% Medium and Large Footprints



2. Landform Analysis

Hydrological Analysis



Lidar



Topo to Raster



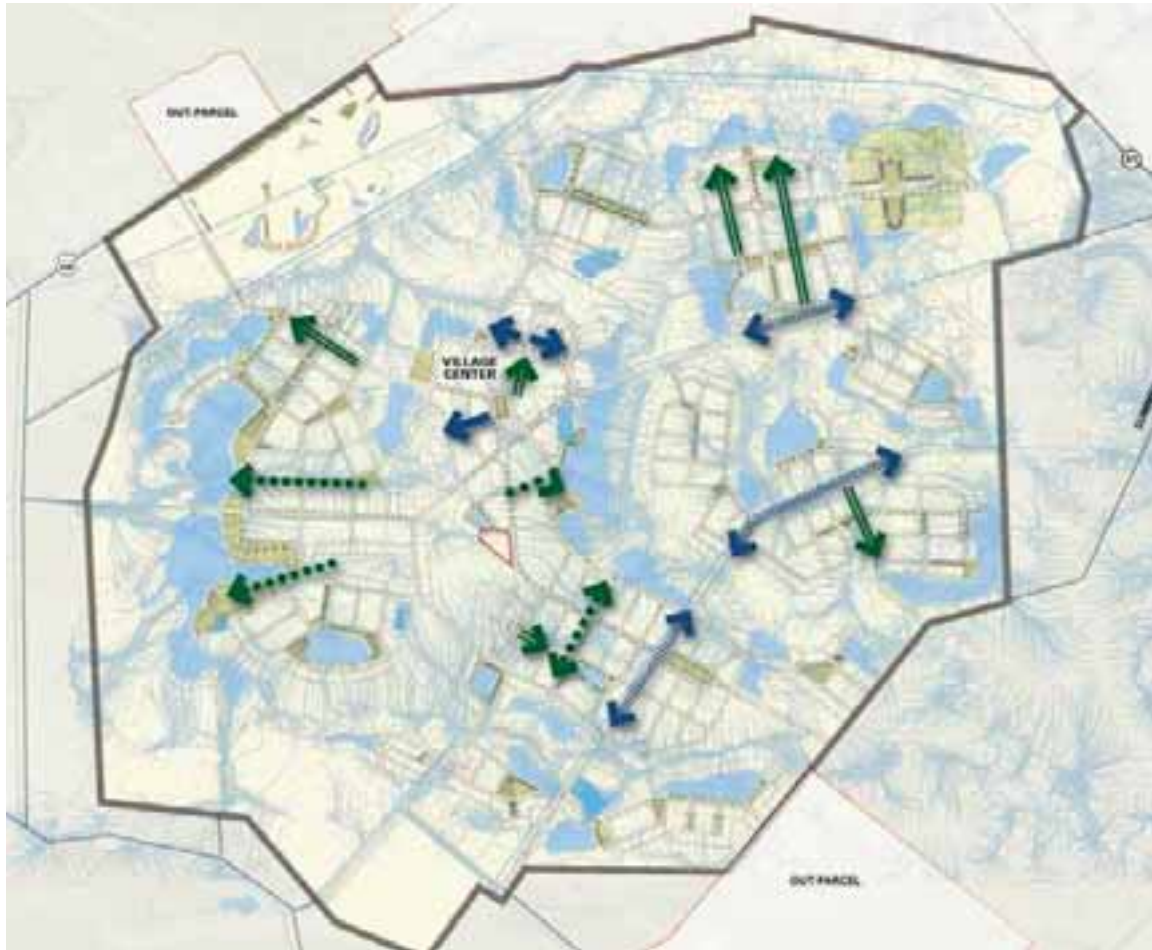
Flow Direction



Flow
Accumulation

2. Landform Analysis

Hydrological Analysis



Lidar



Topo to Raster



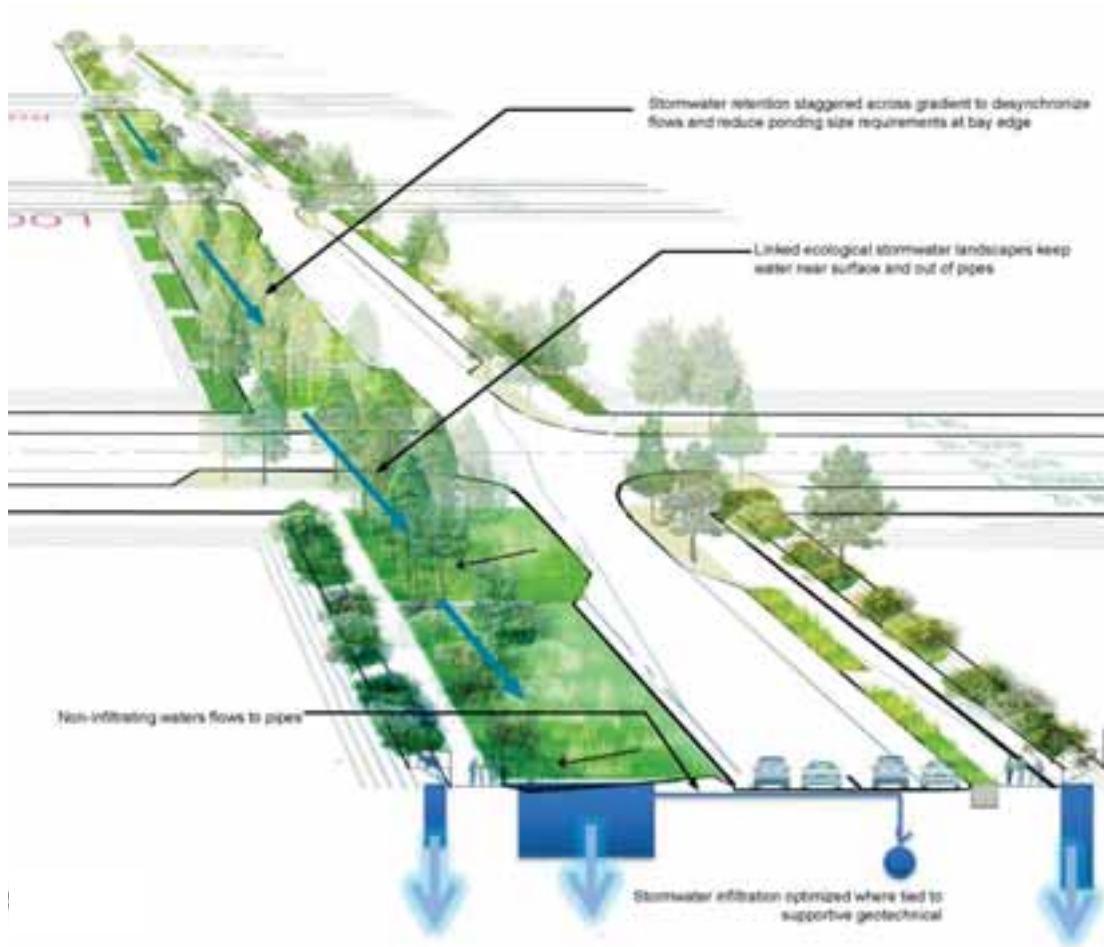
Flow Direction



Flow
Accumulation

2. Landform Analysis

Hydrological Analysis



Roadside bio-retention

Water conveyance



Rain garden



Open-use retention



Vegetated buffer strip

2. Landform Analysis



Master Plan Framework



2. Landform Analysis

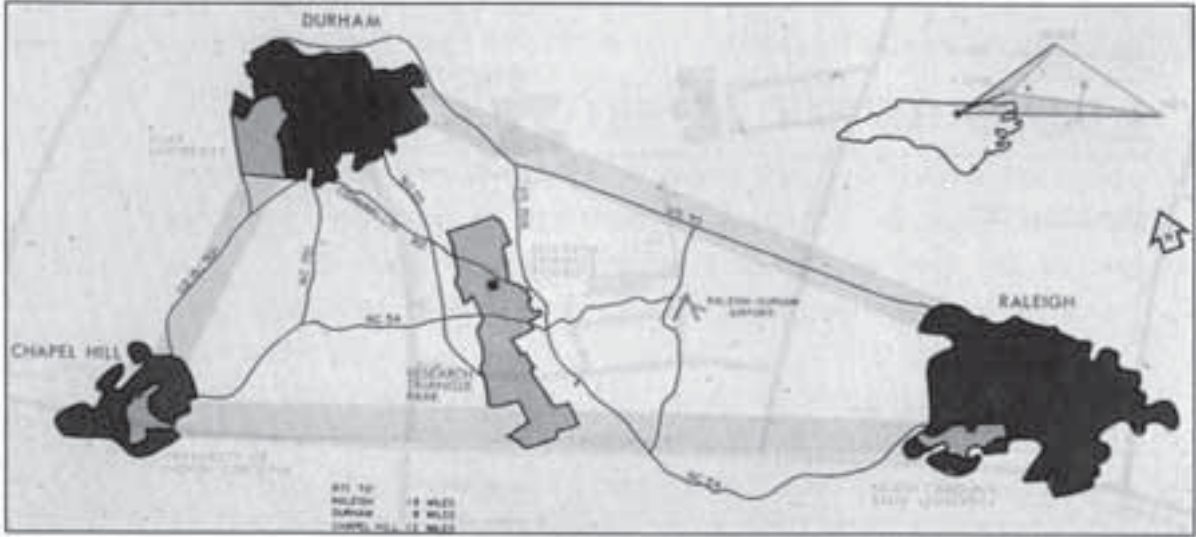
Conceptual Masterplan



Data-Integrated Analysis

3. Data-Integrated Analysis

Research Triangle Park



Research Estates in a “Park” Setting with a central service center and bisecting highway access

3. Data-Integrated Analysis

Research Triangle Park



3. Data-Integrated Analysis

Research Triangle Park



Research Triangle Park



Palo Alto, CA

3. Data-Integrated Analysis

Research Triangle Park



Research Triangle Park



American Tobacco, Durham, NC

3. Data-Integrated Analysis

Physical Geography



3. Data-Integrated Analysis

Physical Geography



3. Data-Integrated Analysis

Corporate Geography



IBM Eisai CREDIT SUISSE EMC²
syngenta CISCO GRIFOLS FIRST FLIGHT VENTURE CENTER
DUPONT gsk GlaxoSmithKline North Carolina Biotechnology Center NetApp
BAYER biogen idec Fidelity IEM
United Therapeutics MCNC BASF RTI INTERNATIONAL



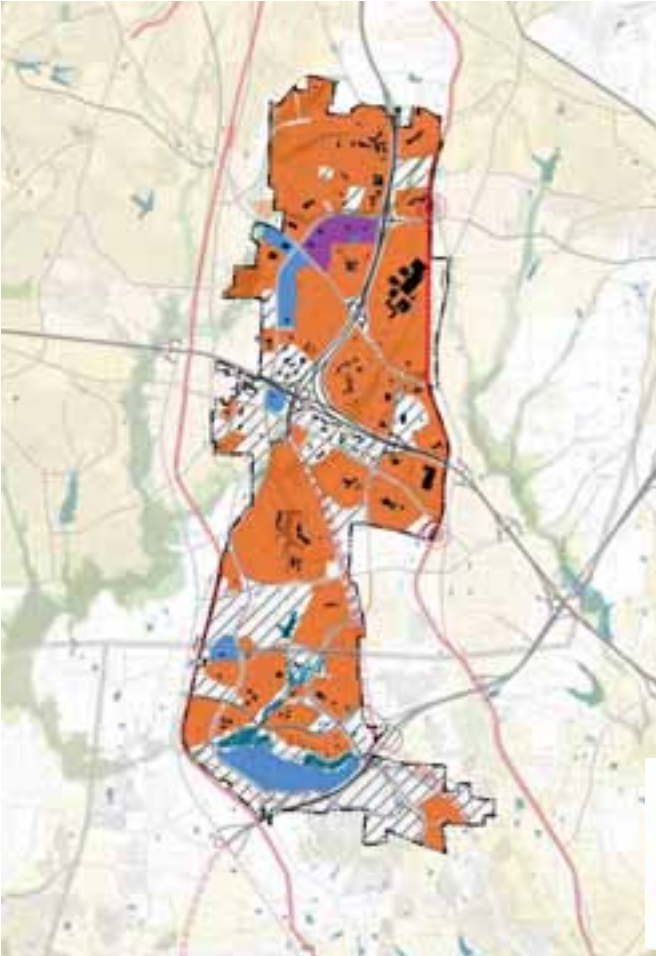
3. Data-Integrated Analysis

Corporate Geography

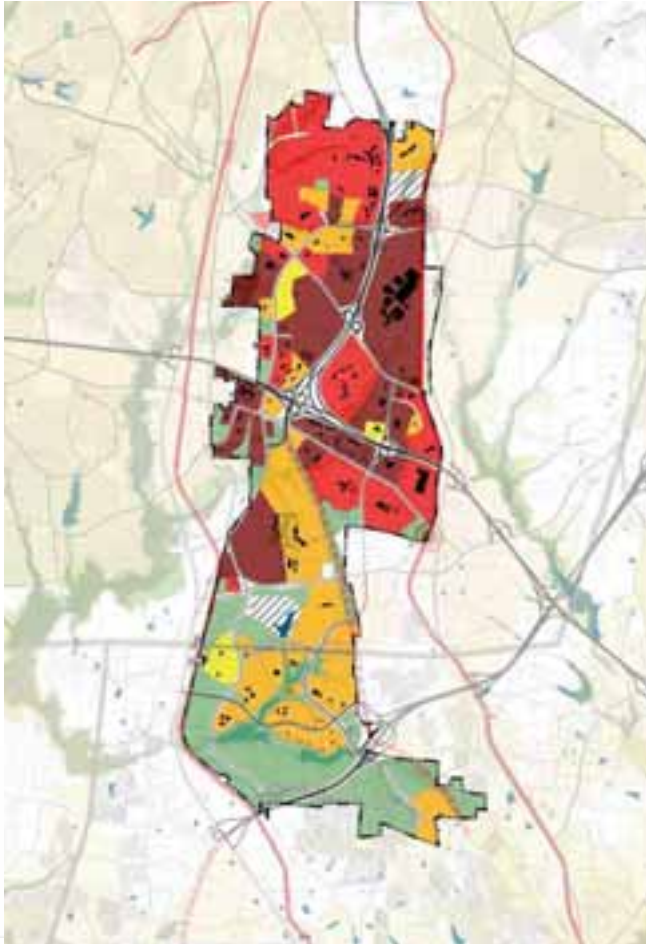


3. Data-Integrated Analysis

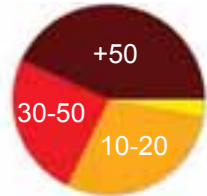
Corporate Geography



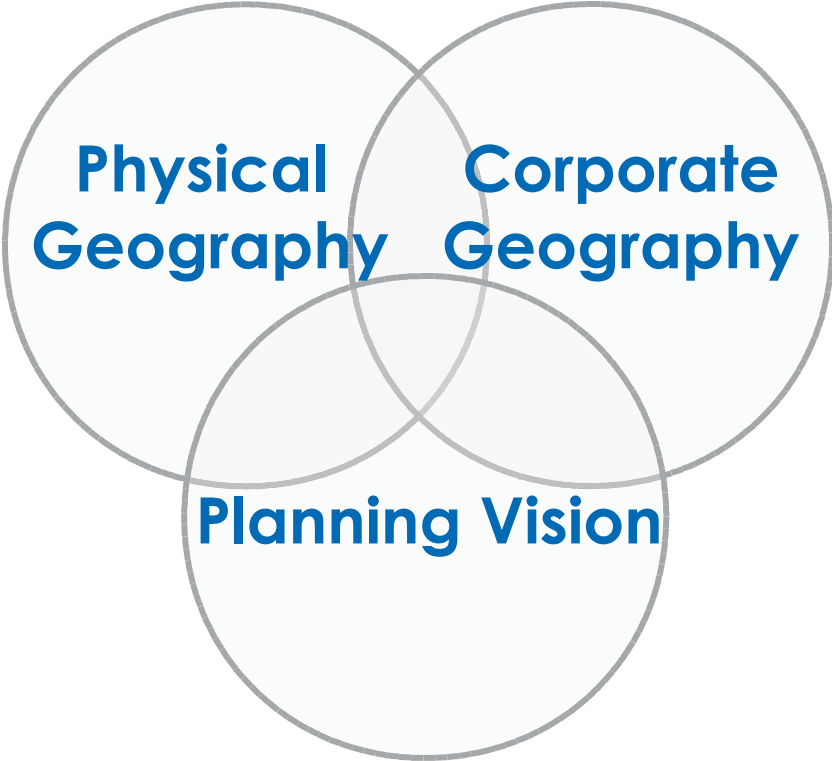
Parcel Ownership



Building Age



3. Data-Integrated Analysis



Conceptual Framework



3. Data-Integrated Analysis



Mixed-Use Clusters



3. Data-Integrated Analysis



Mixed-Use Clusters



3. Data-Integrated Analysis



Mixed-Use Clusters



3. Data-Integrated Analysis

CEMUSA



3. Data-Integrated Analysis

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3. Data-Integrated Analysis

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Residential



Parks



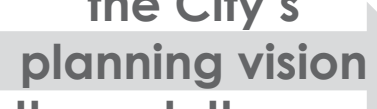
Highways

3. Data-Integrated Analysis

CEMUSA

**Client's
desires**

Display an adherence to the City's planning vision through the use of GIS analysis and agreed upon planning principles



**Planning
approvals**



**An
improved
public
realm**

3. Data-Integrated Analysis



3. Data-Integrated Analysis



3. Data-Integrated Analysis

CEMUSA



Filter Out



3. Data-Integrated Analysis

CEMUSA Historical Digital Locations

6/25/12

Legend, Abbreviations and Symbols

Bus Shelter Code	CBP_ID	DOT Flag	Sanborn	Location	X Long	Y Lat
100140017	17	Y	0	PARK ROW NS BETWEEN BECKMAN ST & SPRUCE ST SW	-74.0062	40.7136
100140139	139	Y	79 & 79	380 AV NS BETWEEN E 47 ST & E 48 ST NE	-73.9717	40.7544
100140160	160	Y	76	49 ST NS BETWEEN 390 AV & LEWINGTON AV NW	-73.9709	40.7531
100140188	188	Y	50	23 ST NS BETWEEN LEWINGTON AV & PARK AV NW	-73.9853	40.7397
100140204	204	Y	50	23 ST W BETWEEN PARK AV & MADISON AV NW	-73.9864	40.7402
MP0205	205	Y	50	23 ST BETWEEN PARK AV & LEWINGTON AV	-73.9862	40.7400
100140209	209	Y	60	34 ST NS BETWEEN S AV & S AV NW	-73.9856	40.7388
100140215	215	Y	55	87H AV NS BETWEEN W 28 ST & W 29 ST SE	-73.9904	40.7469
MP0220	220	Y	72	87H AV BETWEEN W 43 ST & W 44 ST	-73.9835	40.7358
MP0221	221	Y	72	87H AV BETWEEN W 41 ST & W 42 ST	-73.9812	40.7380
100140222	222	Y	81	87H AV NS BETWEEN W 53 ST & W 54 ST NE	-73.9764	40.7421
100140225	225	Y	82 & 82	77H AV NS BETWEEN W 38 ST & W 37 ST SW	-73.9796	40.7435
MP0236	226	Y	82 & 82	77H AV BETWEEN W 35 ST & W 34 ST	-73.9813	40.7436
100140230	230	Y	79	34 ST NS BETWEEN 8TH AV & 7TH AV SE	-73.9891	40.7319
MP0231	231	Y	71 & 65	42 ST BETWEEN 8TH AV & 9TH AV	-73.9903	40.7323
100140247	247	Y	87	COLUMBUS AV NS @ W 60 ST NW	-73.984705	40.740862
100140251	251	Y	71 & 76	97H AV NS BETWEEN W 30 ST & W 49 ST SW	-73.989	40.7434
MP0296	296	Y	87	BROADWAY BETWEEN W 60 ST & W 61 ST	-73.9820	40.7488
100140250	250	Y	56	PARK AV NS BETWEEN E 27 ST & E 26 ST NW	-73.9849	40.7422
100140291	291	Y	56	PARK AV NS BETWEEN E 31 ST & E 32 ST NE	-73.9828	40.7449
100140297	297	Y	41	37H AV NS BETWEEN W 20 ST & W 19 ST SW	-73.9913	40.7394
100140298	298	Y	49	37H AV NS BETWEEN W 21 ST & W 22 ST SW	-73.9898	40.7413
100140742	742	Y	49	23 ST NS BETWEEN 7 AV & 6 AV SE	-73.99325	40.74207
MP0747	747	Y	60	34 ST BETWEEN BROADWAY & 7 AV	-73.9893	40.7496
100141025	1025	Y	43 & 30	14 ST NS BETWEEN 8TH AV & UNIVERSITY PL SE	-73.9933	40.7385
MP0207	1027	Y	44 & 30	14 ST BETWEEN 8TH AV & IRVING PL	-73.9877	40.7395
100141034	1034	Y	76	87H AV NS BETWEEN W 52 ST & W 53 ST NE	-73.9852	40.7438
MP0280	1040	Y	59	34 ST BETWEEN 8TH AV & 9TH AV	-73.9929	40.7332
100141129	1129	Y	37 & 42	14 ST NS BETWEEN 8 AV & 9 AV NW	-74.001	40.74
100141137	1137	Y	71	42 ST NS BETWEEN 9TH AV & 8TH AV SE	-73.9923	40.7385
100141151	1151	Y	89	86 ST NS BETWEEN CENTRAL PK WEST & COLUMBUS AV W	-73.9812	40.7772
MP1181	1181	Y	3	CHURCH ST BETWEEN CHAMBERS ST & READE ST	-74.0075	40.7133
100141205	1205	Y	82	37 ST NS BETWEEN 8TH AV & 8TH AV SE	-73.9853	40.7427
100141251	1251	Y	43 & 32	14 ST NS BETWEEN 7 AV & 6 AV SE	-73.9902	40.7394
100141265	1265	Y	9	WORTH ST NS BETWEEN CHURCH ST & BROADWAY ST SE	-74.001701	40.718837
100141279	1279	Y	86	34 ST NS BETWEEN 8TH AV & 9TH AV NW	-73.9844	40.7338
100141387	1387	Y	43 & 42	77H AV NS BETWEEN 20 ST & 19 ST SW	-73.9876	40.7473
100141395	1395	Y	87	87H AV NS BETWEEN W 34 ST & W 35 ST NE	-73.9797	40.7434
100141352	1352	Y	6	CHAMBERS ST NS BETWEEN E 4 ST & BROADWAY ST NE	-74.0061	40.7142



3. Data-Integrated Analysis



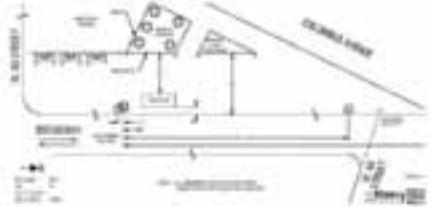
3. Data-Integrated Analysis



Application of planning principles

3. Data-Integrated Analysis

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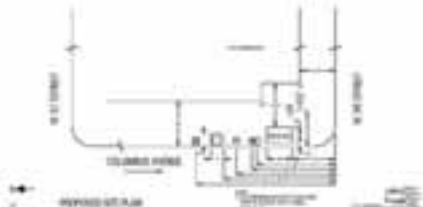


Bus Shelter ID: 2082



March 10, 2017

Bus Shelter Location Analysis



Newsstand ID: 4202



March 10, 2017

Newsstand Location Analysis

3. Data-Integrated Analysis

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Cooper, Robertson and Partners

Architecture, Urban Design

Mike Aziz, LEED AP

New York, NY

An urban designer's GIS wishlist



An urban designer's GIS wishlist

1. Broader 3d interoperability
2. Increased graphic and layout functionality
3. Design school outreach



Cooper, Robertson and Partners

Architecture, Urban Design

Mike Aziz, LEED AP

New York, NY

