



Park+

Unlimited Parking Solutions

Capitol East Parking Study
Overview and Findings
March 8, 2016

PRESENTED BY

Kimley»»Horn

Expect More. Experience Better.

Agenda

- Park+ 101
 - How does the model work? What's the purpose?
 - How was the Capitol East model built?
- Future Conditions for the Capitol East Area
- Modeled Conditions
 - Existing, Short-Term, Mid-Term, and Long-Term
 - Potential Parking Structures
- Traffic Impacts of Development and Parking

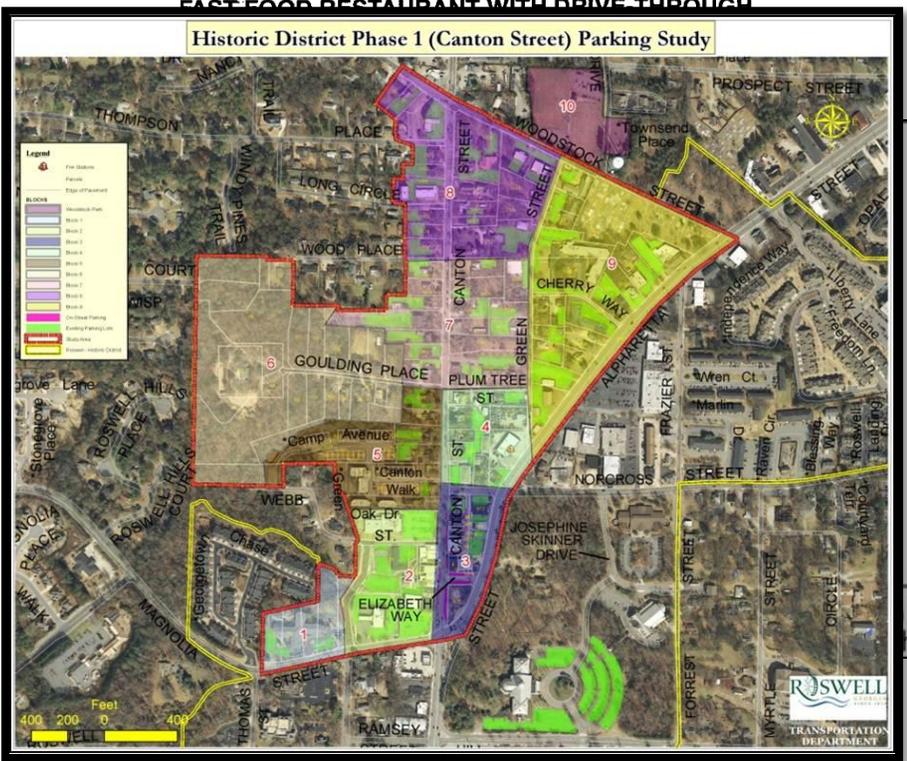
PARK+ 101



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The Supply/Demand Study



R² = 0.069

DIRECTIONAL DISTRIBUTION: Not available.

- A staple of the parking professional
- Zonal, area, or block based
- Data dependent
- High magnitude comparisons
- Overlapping peaks



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The Supply/Demand Life Cycle



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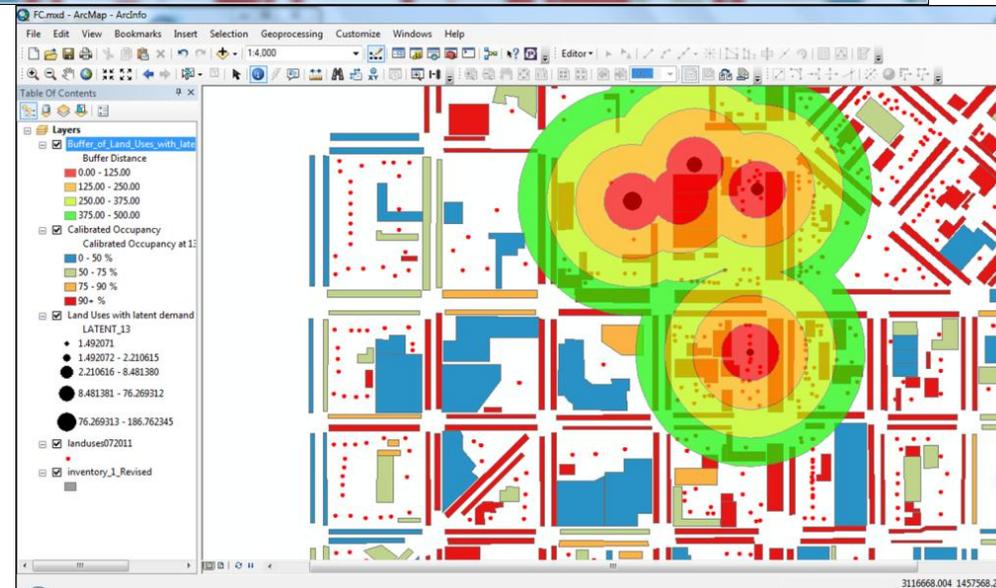
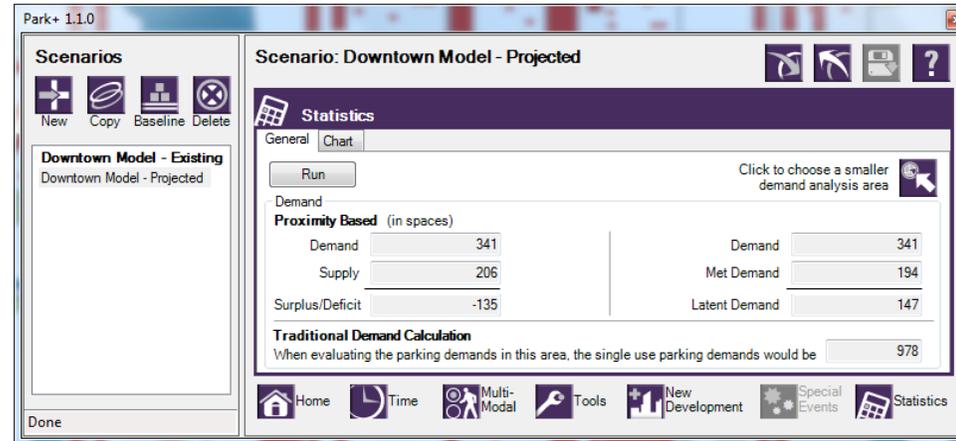
What is Park+?

- *An interactive supply/demand modeling software platform that integrates the principles of a traditional parking study, transportation demand modeling, and geospatial mapping*
- Allows it's users to:
 - Maintain comprehensive inventory
 - Model changing parking behaviors
 - Predict development and parking needs
 - Evaluate management scenarios



What is Park+?

- KHA's answer to the evolving supply/demand equation
- Park+ can:
 - Evaluate new development
 - Project event conditions
 - Provide policy support
 - Inform management decisions
 - Strengthen planning and operations approaches



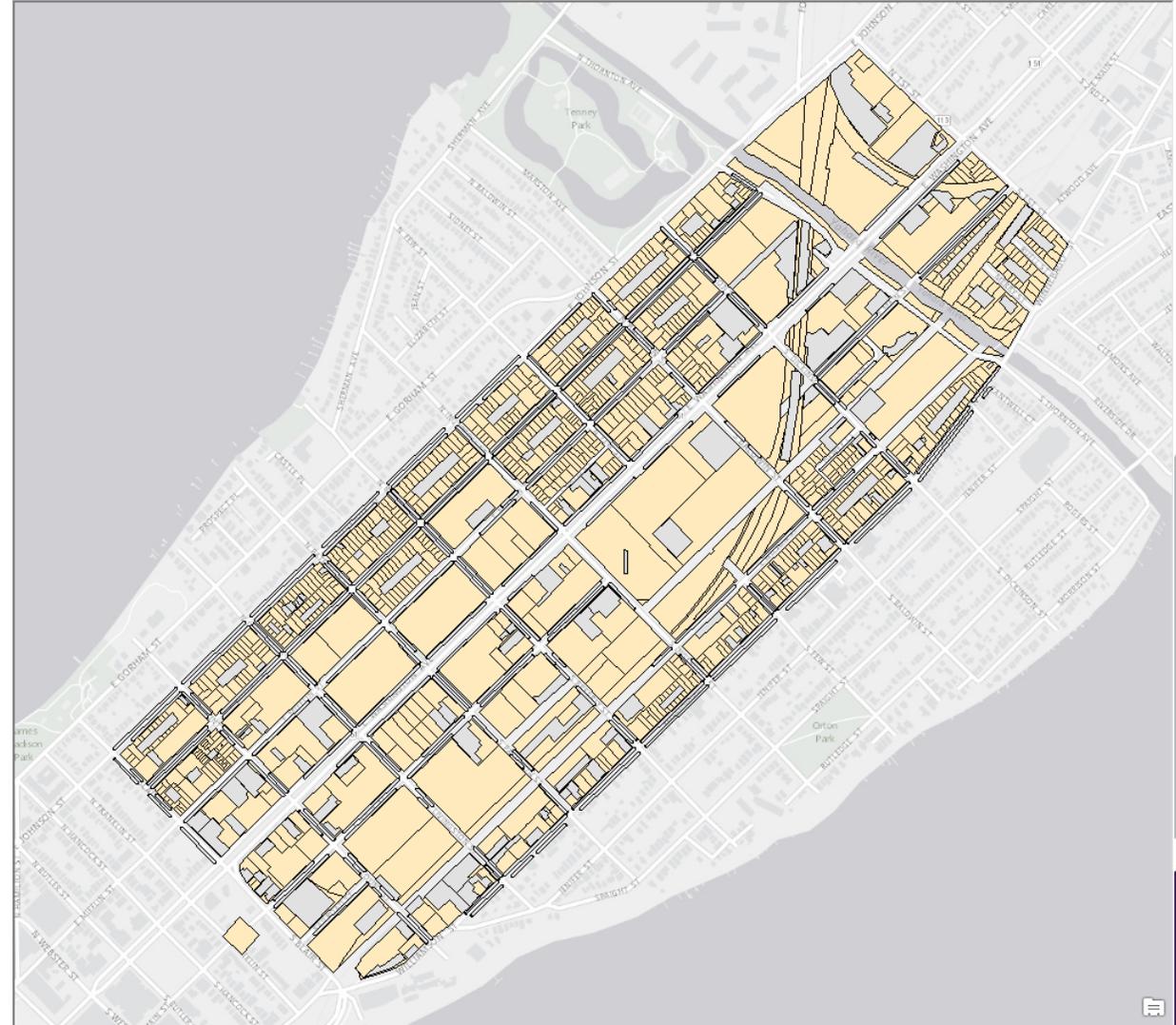
Where It's Been Used



HOW DID WE BUILD THE CAPITOL EAST MODEL

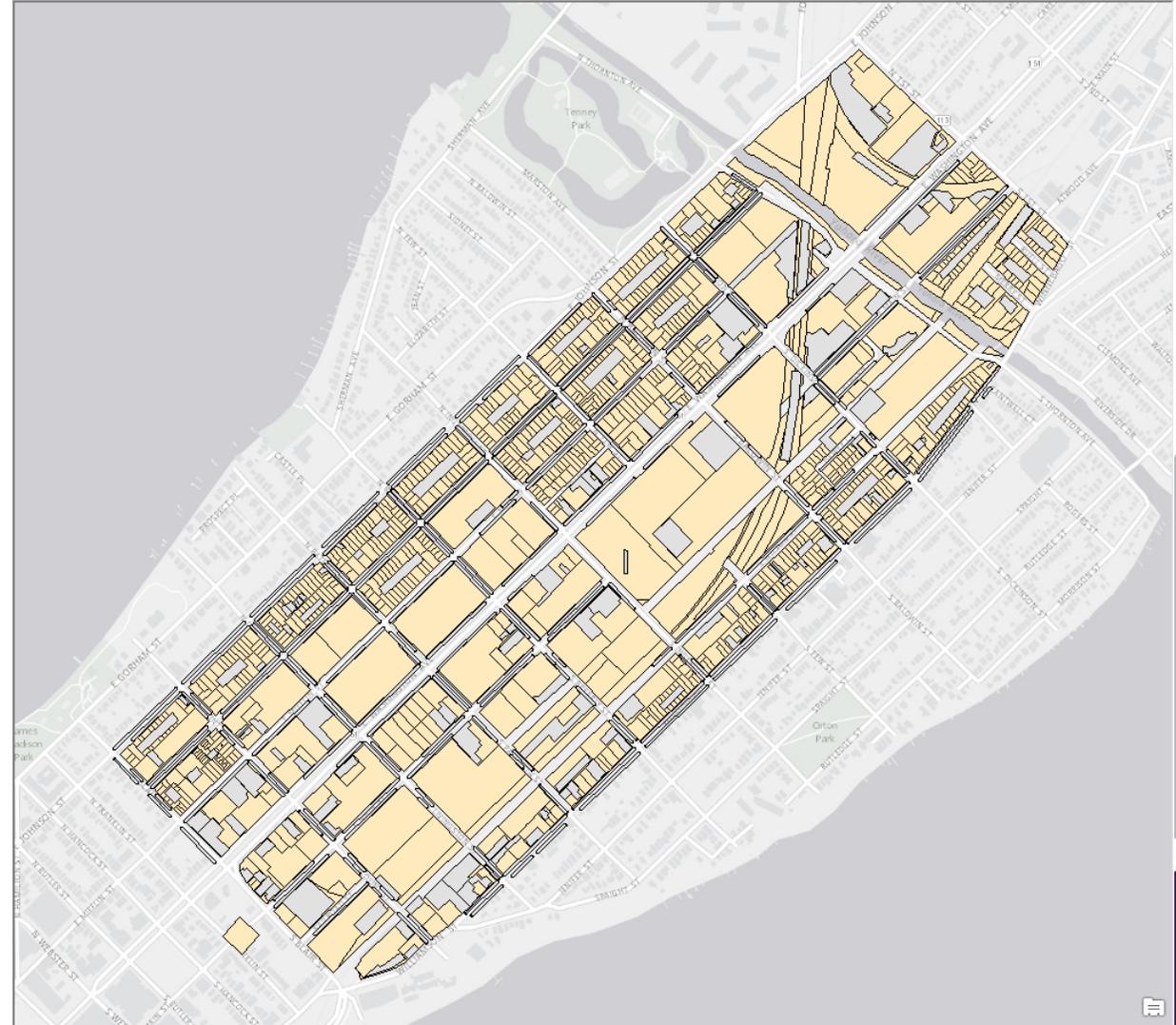
Building the Capitol East Parking Model

- Two primary pieces of data:
 - Area land use information
 - Area parking characteristics
- Additional Information:
 - Multi-modal characteristics
 - User characteristics



Data Collection for the Capitol East model

- Parking data collection:
 - City of Madison interns
 - State Smart Transportation Initiative
 - Kimley-Horn LPR data collection



Calibration of the Capitol East Park+ model

- Used this data to create local representation of parking demands and generation characteristics

Land Use Type	Park+ Peak Demand Rate	ULI Parking Demand Rate
Residential	0.79 spaces per dwelling unit	1.65 spaces per dwelling unit
Commercial ¹	4.46 spaces per 1,000 SF	3.60 spaces per 1,000 SF for retail 16-18 spaces per 1,000 SF for lounge/restaurant
Office	1.73 spaces per 1,000 SF	2.80 spaces per 1,000 SF

¹ Commercial land uses represent an aggregate of general retail and restaurant demands, to account for a mixed provision of this type of use in future development scenarios

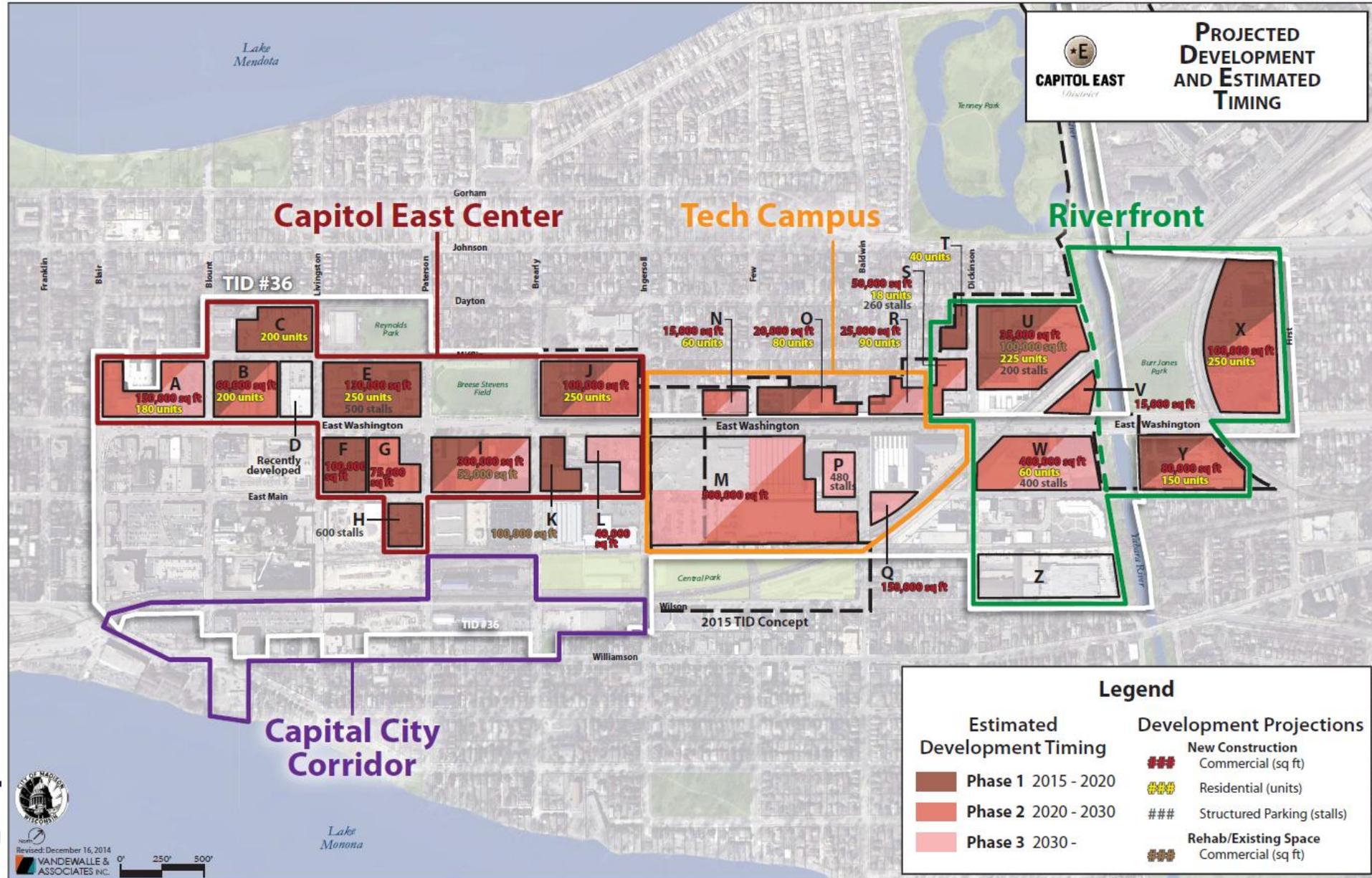


FUTURE CONDITIONS FOR THE CAPITOL EAST AREA

Phased Development

Phase 1

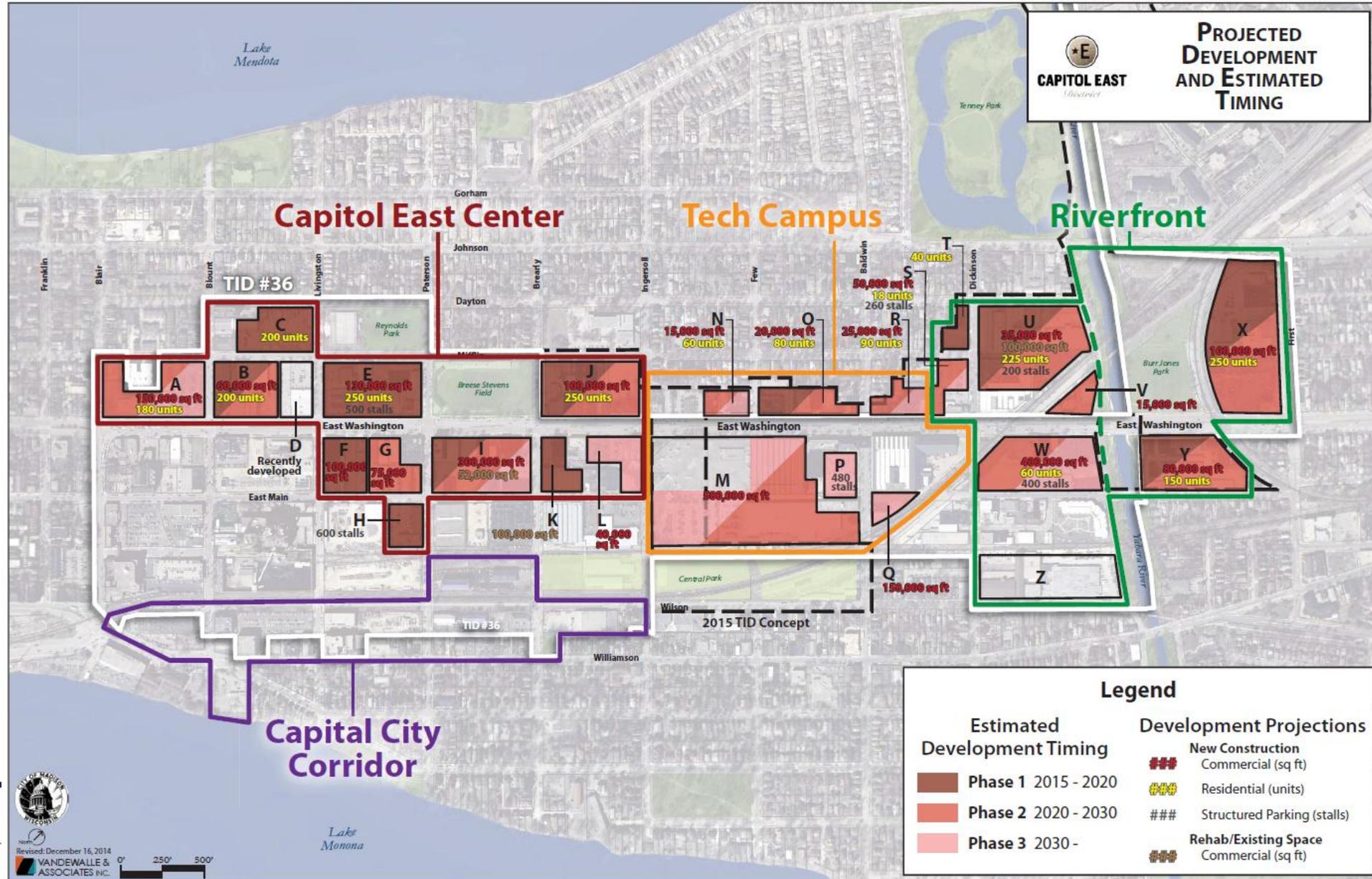
- B
 - C
 - E
 - F
 - H
 - I
 - K
 - L
 - O
 - T
- Y
 - X



Phased Development

Phase 2

- A
- W
- B
- V
- G
- Y
- I
- X
- J
- M
- N
- O
- R
- S



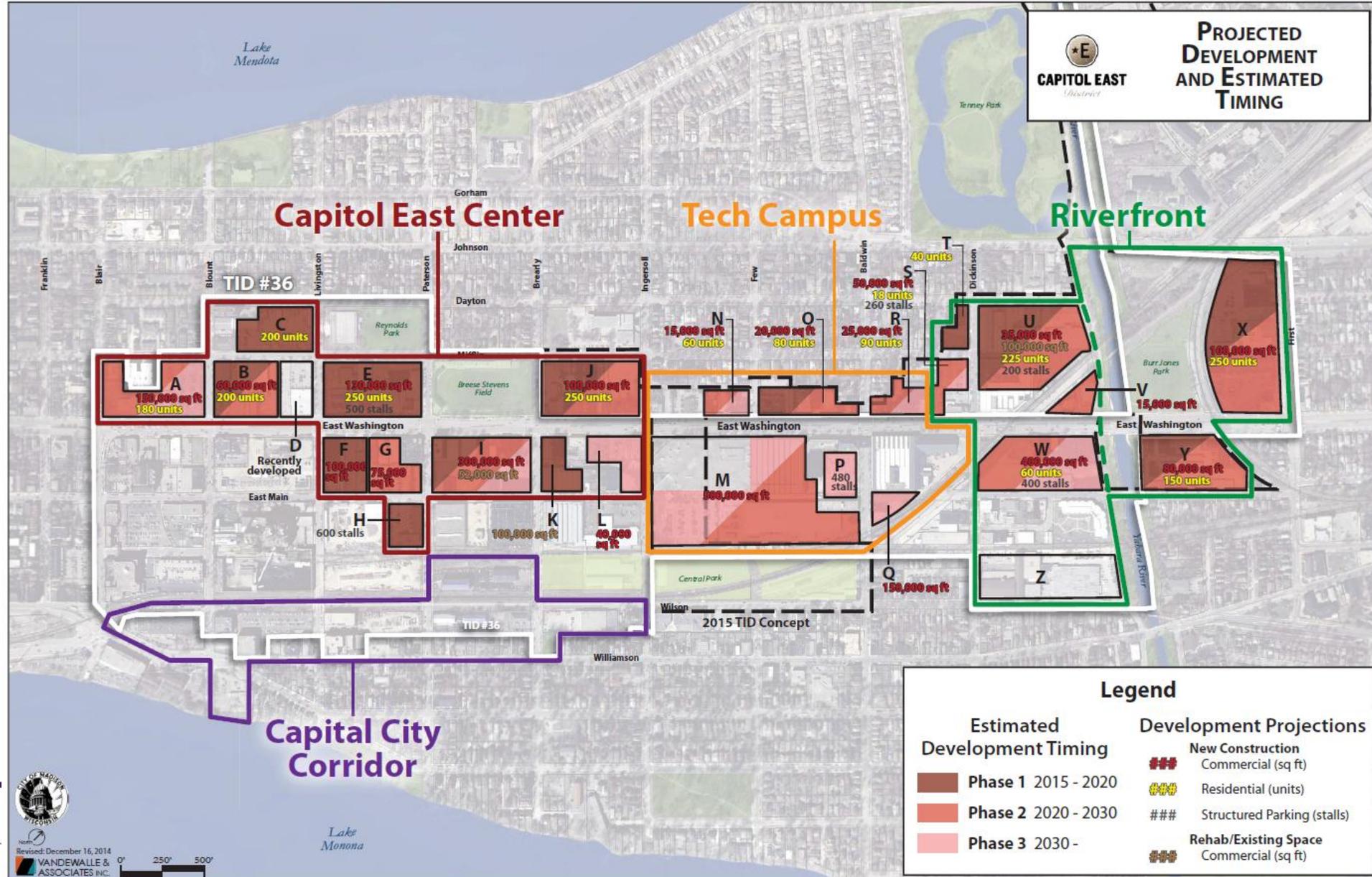
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Phased Development

Phase 3

- A
- I
- L
- M
- N
- Q
- P
- R
- S
- W
- Area 12



Revised: December 16, 2014
 VANDEWALLE & ASSOCIATES INC.



Development Area	Short Term (2015-2020)	Mid-Term (2020-2030)	Long-Term (2030 and beyond)
A	NA	Residential – 90 units Commercial – 11,250 SF Office – 63,750 Sf Parking – 90 spaces	Residential – 180 units Commercial – 22,500 SF Office – 127,500 SF Parking -
B	Residential – 100 units Commercial – 4,500 SF Office – 25,500 SF Parking – 100 spaces	Residential – 200 units Commercial – 9,000 SF Office – 51,000 SF Parking – 200 spaces	Residential – 200 units Commercial – 9,000 SF Office – 51,000 SF Parking – 200 spaces
C	Residential – 200 units Parking – 200 spaces	Residential – 200 units Parking – 200 spaces	Residential – 200 units Parking – 200 spaces
E	Residential – 294 units Commercial – 77,500 SF Office – 55,000 SF Parking – 661 spaces	Residential – 294 units Commercial – 77,500 SF Office – 55,000 SF Parking – 661 spaces	Residential – 294 units Commercial – 77,500 SF Office – 55,000 SF Parking – 661 spaces
F	Commercial – 16,000 SF Office – 226,000 SF	Commercial – 57,000 SF Office – 339,000 SF	Commercial – 57,000 SF Office – 339,000 SF

Development Area	Short Term (2015-2020)	Mid-Term (2020-2030)	Long-Term (2030 and beyond)
G	NA	Commercial – 36,000 SF Office – 201,000 SF	Commercial – 36,000 SF Office – 201,000 SF
H	Parking – 600 spaces	Parking – 600 spaces	Parking – 600 spaces
I	Commercial – 17,500 SF Office – 100,000 SF	Commercial – 35,000 SF Office – 200,000 SF	Commercial – 50,000 SF Office – 285,000 SF
J	Residential – 392 units Commercial – 35,000 SF Office – 122,000 SF Parking – 710 spaces	Residential – 392 units Commercial – 35,000 SF Office – 122,000 SF Parking – 710 spaces	Residential – 392 units Commercial – 35,000 SF Office – 122,000 SF Parking – 710 spaces
K	Commercial – 15,000 SF Office – 8,5000 SF	Commercial – 15,000 SF Office – 8,5000 SF	Commercial – 15,000 SF Office – 8,5000 SF
L	NA	NA	Commercial – 6,000 SF Office – 34,000 SF
M	NA	Commercial – 37,500 SF Office – 212,500 SF	Commercial – 75,000 SF Office – 425,000 SF

Development Area	Short Term (2015-2020)	Mid-Term (2020-2030)	Long-Term (2030 and beyond)
N	NA	Residential – 30 units Commercial – 1,125 SF Office – 6,375 SF Parking – 30 spaces	Residential – 60 units Commercial – 2,250 SF Office – 12,750 SF Parking – 30 spaces
O	Residential – 40 units Commercial – 1,500 SF Office – 8,500 SF Parking – 40 spaces	Residential – 80 units Commercial – 3,000 SF Office – 17,000 SF Parking – 80 spaces	Residential – 80 units Commercial – 3,000 SF Office – 17,000 SF Parking – 80 spaces
P	NA	NA	NA
Q	NA	NA	Residential – 90 units Commercial – 22,500 SF Office – 127,500 SF Parking -
R	NA	Residential – 45 units Commercial – 1,875 SF Office – 10,625 SF	Residential – 90 units Commercial – 3,750 SF Office – 21,250 SF

Development Area	Short Term (2015-2020)	Mid-Term (2020-2030)	Long-Term (2030 and beyond)
S	NA	Residential – 13 units Commercial – 5,625 SF Office – 31,875 SF Parking – 195 spaces	Residential – 18 units Commercial – 7,525 SF Office – 42,500 SF Parking – 195 spaces
T	Residential – 40 units Parking – 40 spaces	Residential – 40 units Parking – 40 spaces	Residential – 40 units Parking – 40 spaces
U	NA	Residential – 225 units Commercial – 20,250 SF Office – 115,000 SF Parking – 200 spaces	Residential – 225 units Commercial – 20,250 SF Office – 115,000 SF Parking – 200 spaces
V	NA	Commercial – 2,250 SF Office – 12,750 SF	Commercial – 2,250 SF Office – 12,750 SF
W	NA	Residential – 30 units Commercial – 30,000 SF Office – 170,000 SF Parking – 200 spaces	Residential – 60 units Commercial – 60,000 SF Office – 340,000 SF Parking – 200 spaces

Development Area	Short Term (2015-2020)	Mid-Term (2020-2030)	Long-Term (2030 and beyond)
X	Residential – 250 units Commercial – 15,000 SF Office – 85,000 SF Parking – 250 spaces	Residential – 250 units Commercial – 15,000 SF Office – 85,000 SF Parking – 250 spaces	Residential – 250 units Commercial – 15,000 SF Office – 85,000 SF Parking – 250 spaces
Y	Residential – 241 units Commercial – 4,300 SF Office – 20,000 SF Parking – 340 spaces	Residential – 241 units Commercial – 4,300 SF Office – 20,000 SF Parking – 340 spaces	Residential – 241 units Commercial – 4,300 SF Office – 20,000 SF Parking – 340 spaces
Area 12	NA	NA	Commercial – 30,000 SF Office – 170,000 SF

MODELED CONDITIONS

Existing Conditions

Scenario: Capital East ExistingV3

Statistics

General | Chart | Selection Areas | Calibration

Run | Report | [Click to choose a smaller demand analysis area](#)

Demand

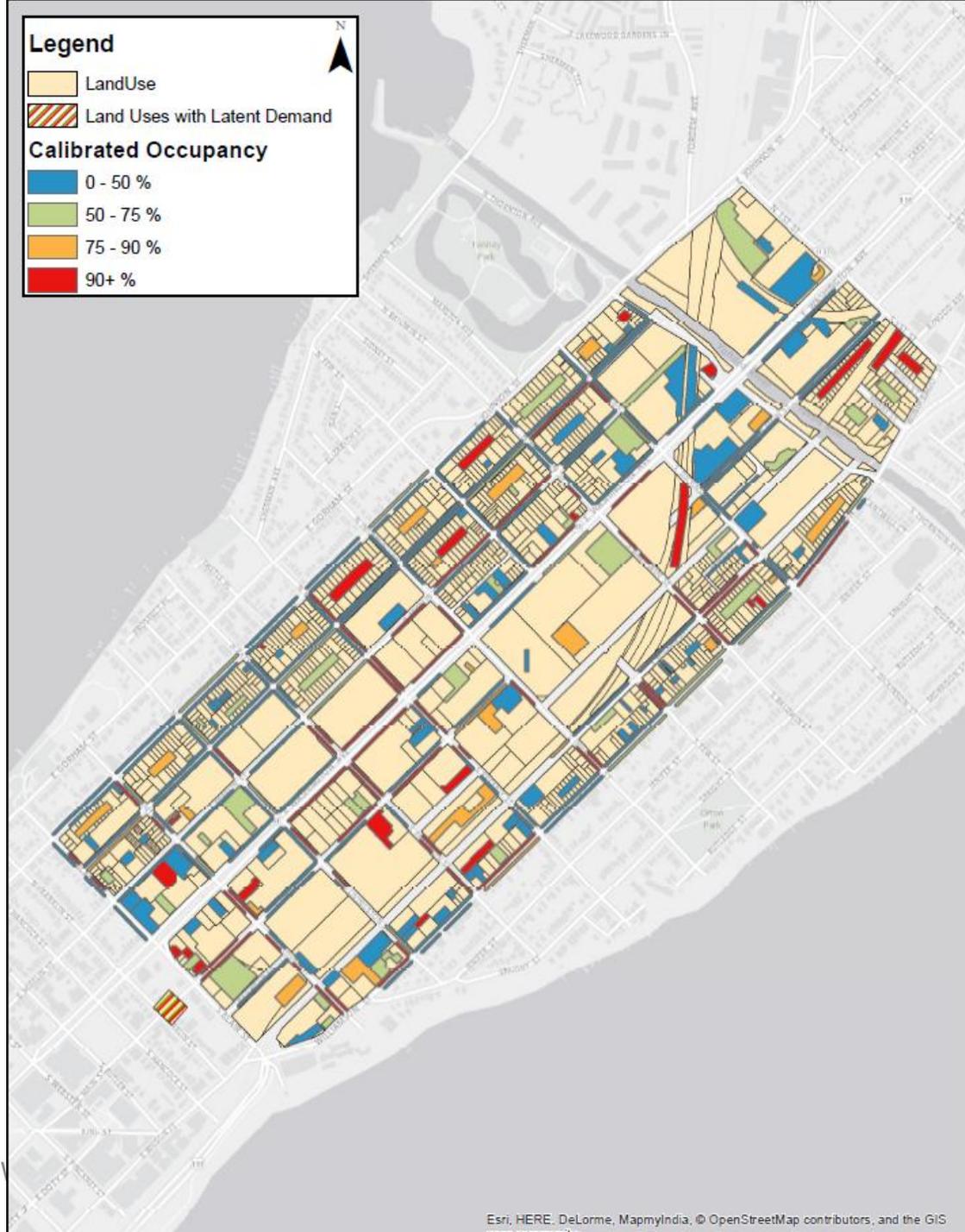
Proximity Based (in spaces)

Demand	4,447	Demand	4,447
Supply	7,978	Met Demand	4,327
Surplus/Deficit	3,531	Latent Demand	120

Traditional Demand Calculation

When evaluating the parking demands in this area, the single use parking demands would be 9,366

Home | Time | Multi-Modal | Tools | New Development | Special Events | Statistics



Short Term Developments

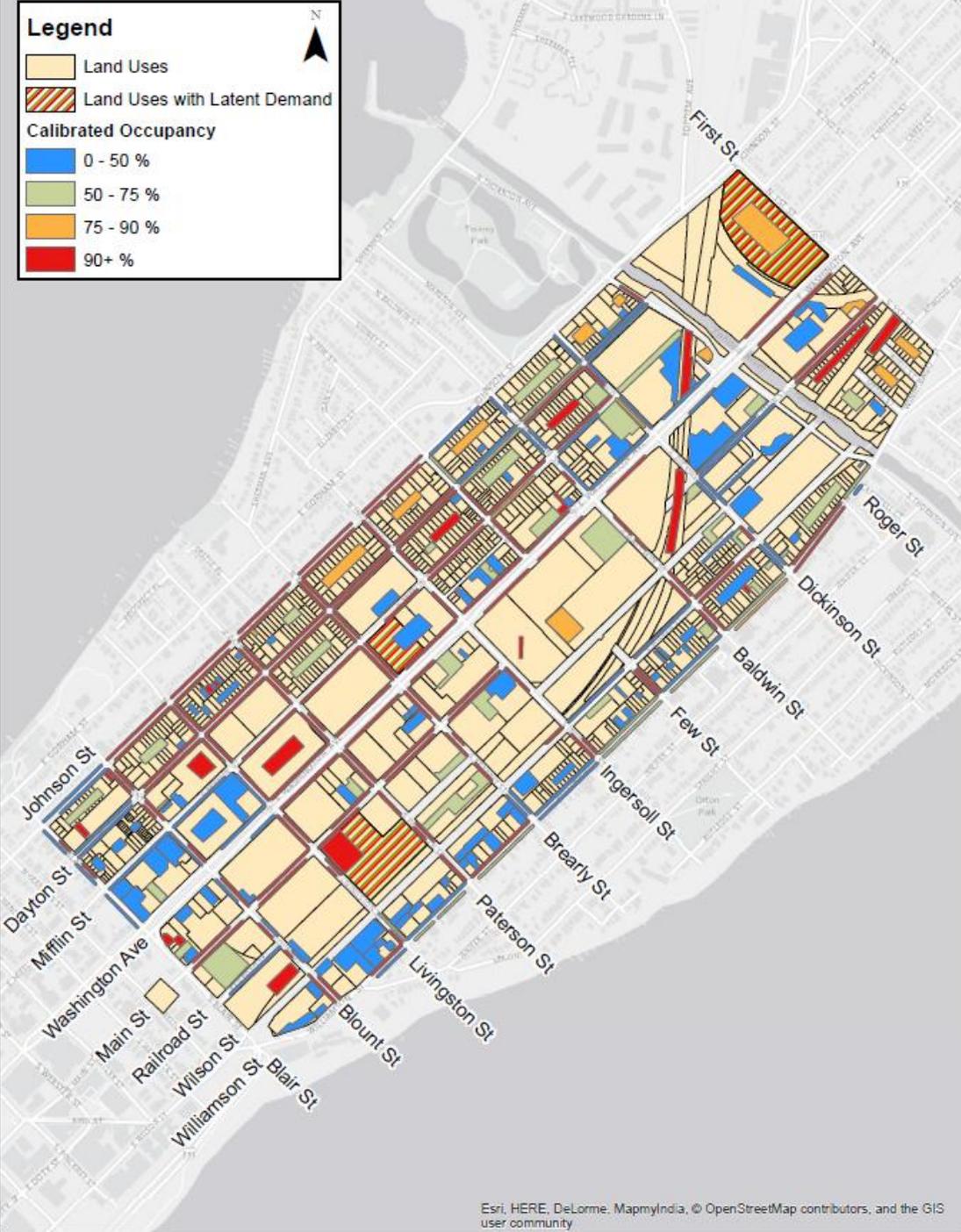
Area	Supply	Demand	Surplus/Deficit
B	100	124	-24
C	200	157	43
E	661	529	132
F	0	170	-170
H	600	0	600
I	0	182	-182
J	710	570	140
K	0	192	-192
O	40	47	-7
T	0	31	-31
X	250	349	-99
Y	400	253	147

Legend

- Land Uses
- Land Uses with Latent Demand

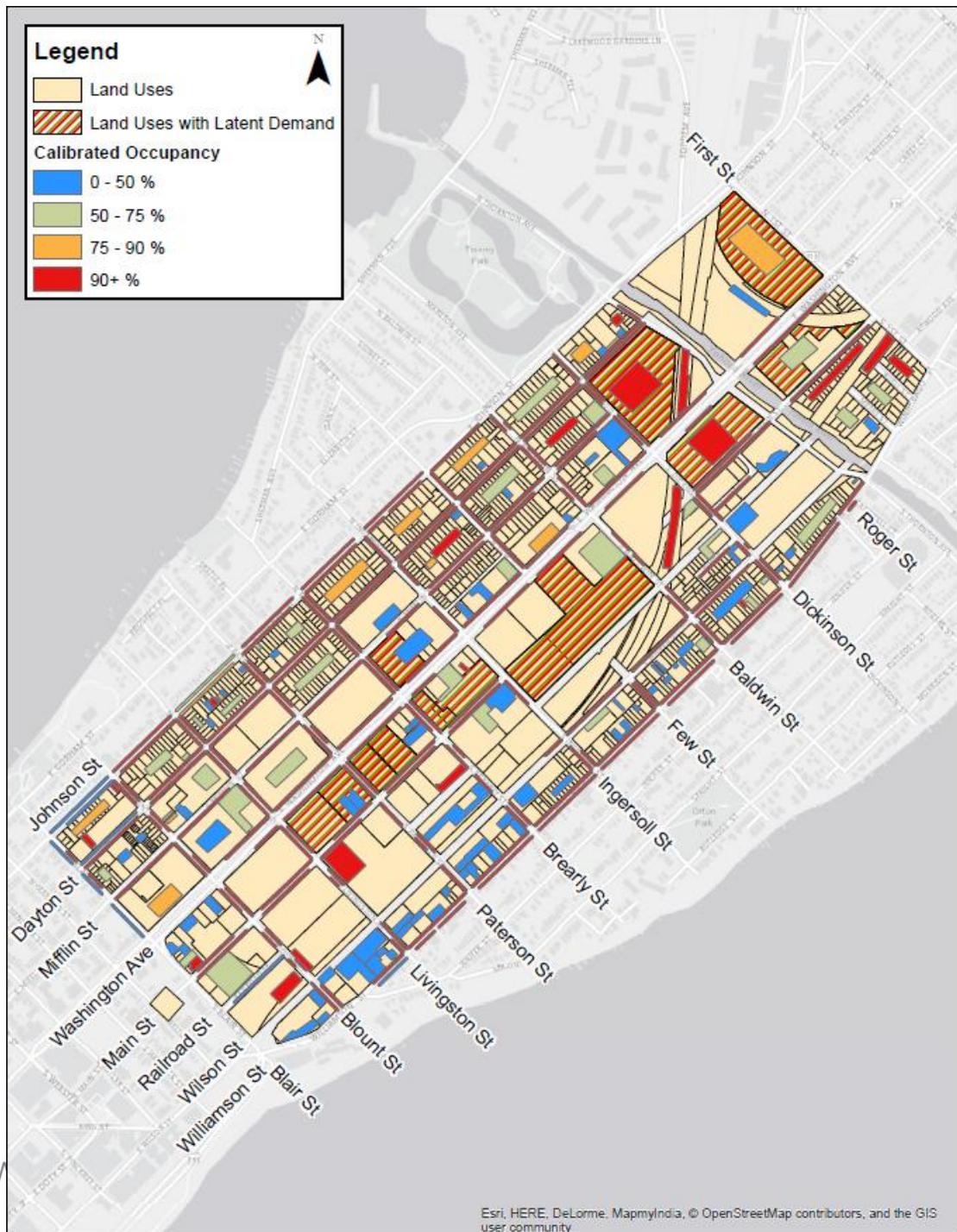
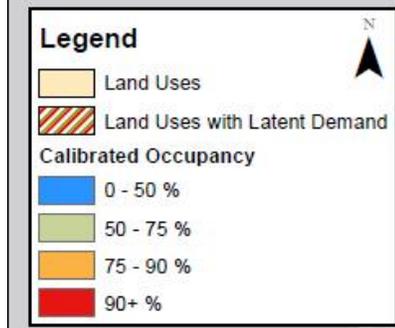
Calibrated Occupancy

- 0 - 50 %
- 50 - 75 %
- 75 - 90 %
- 90+ %

Mid Term Developments

Area	Scenario includes:	Deficit
N	<ul style="list-style-type: none"> Scenario includes: <ul style="list-style-type: none"> Short-term and mid-term development projections Increase in non-automotive mode split of 5% over existing 	
O		
R		
S		
T		
U		
V		
W		
X		
Y		
M		

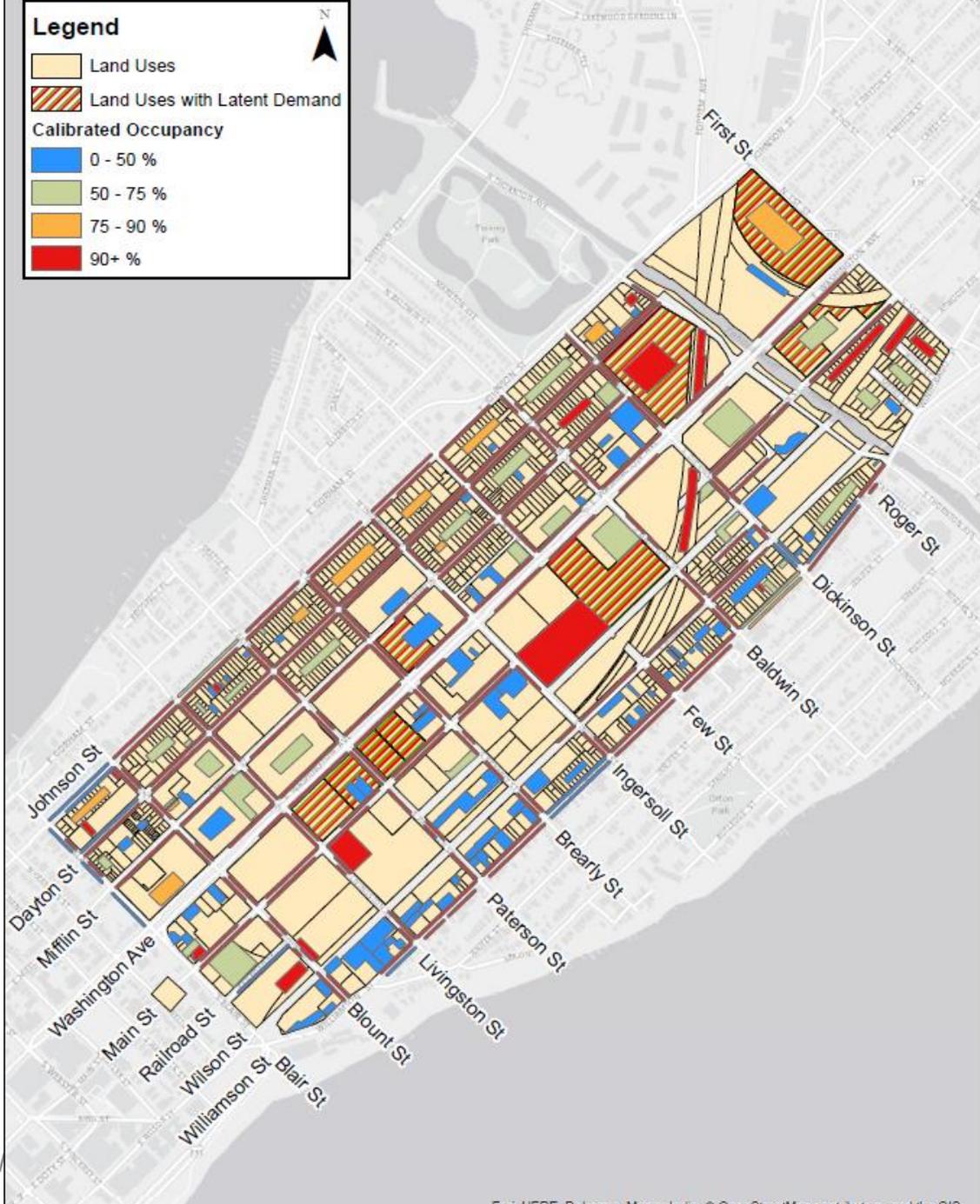


Mid-Term with Additional Parking

Area	Supply	Demand	Surplus/Deficit
N	30	56	-26
O	87	105	-18
R	45	54	-9
S	195	66	129
T	40	31	9
U	200	376	-176
V	70	23	47
W	488	319	169
X	250	344	-94
Y	340	265	75
M	556	410	146

Legend

- Land Uses
- Land Uses with Latent Demand
- Calibrated Occupancy
 - 0 - 50 %
 - 50 - 75 %
 - 75 - 90 %
 - 90+ %



Long Term Development

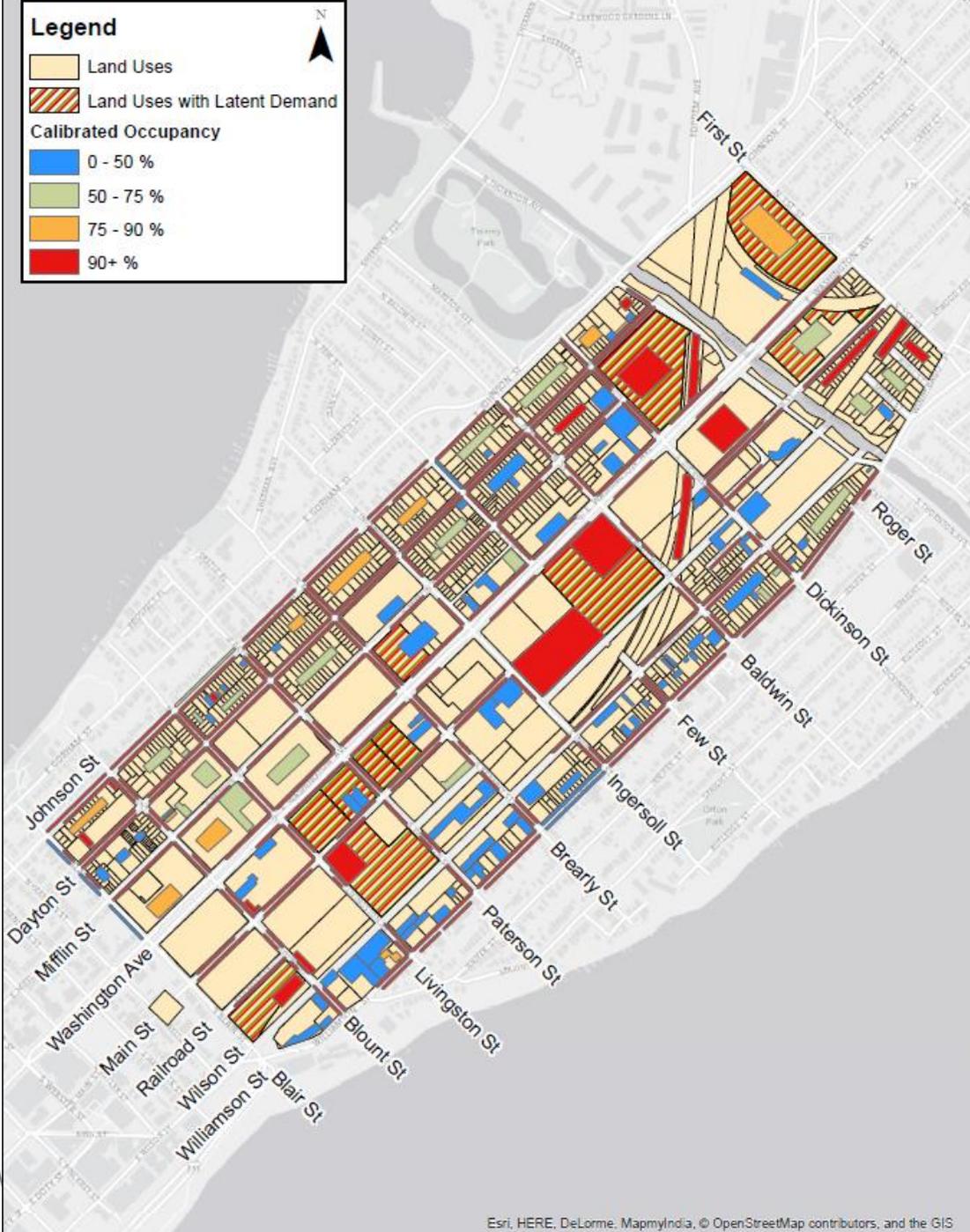
Area	Supply	Demand	Surplus/Deficit
N	61	94	-33
O	80	402	-322
P	650	0	650
Q	0	214	-214
R	90	105	-15
S	260	83	177
T	40	33	7
U	200	362	-162
V	70	21	49
W	488	596	-108
X	250	333	-83
Y	340	265	75
M	650	726	-76

Legend

- Land Uses
- Land Uses with Latent Demand

Calibrated Occupancy

- 0 - 50 %
- 50 - 75 %
- 75 - 90 %
- 90+ %



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Long-Term with Additional Parking

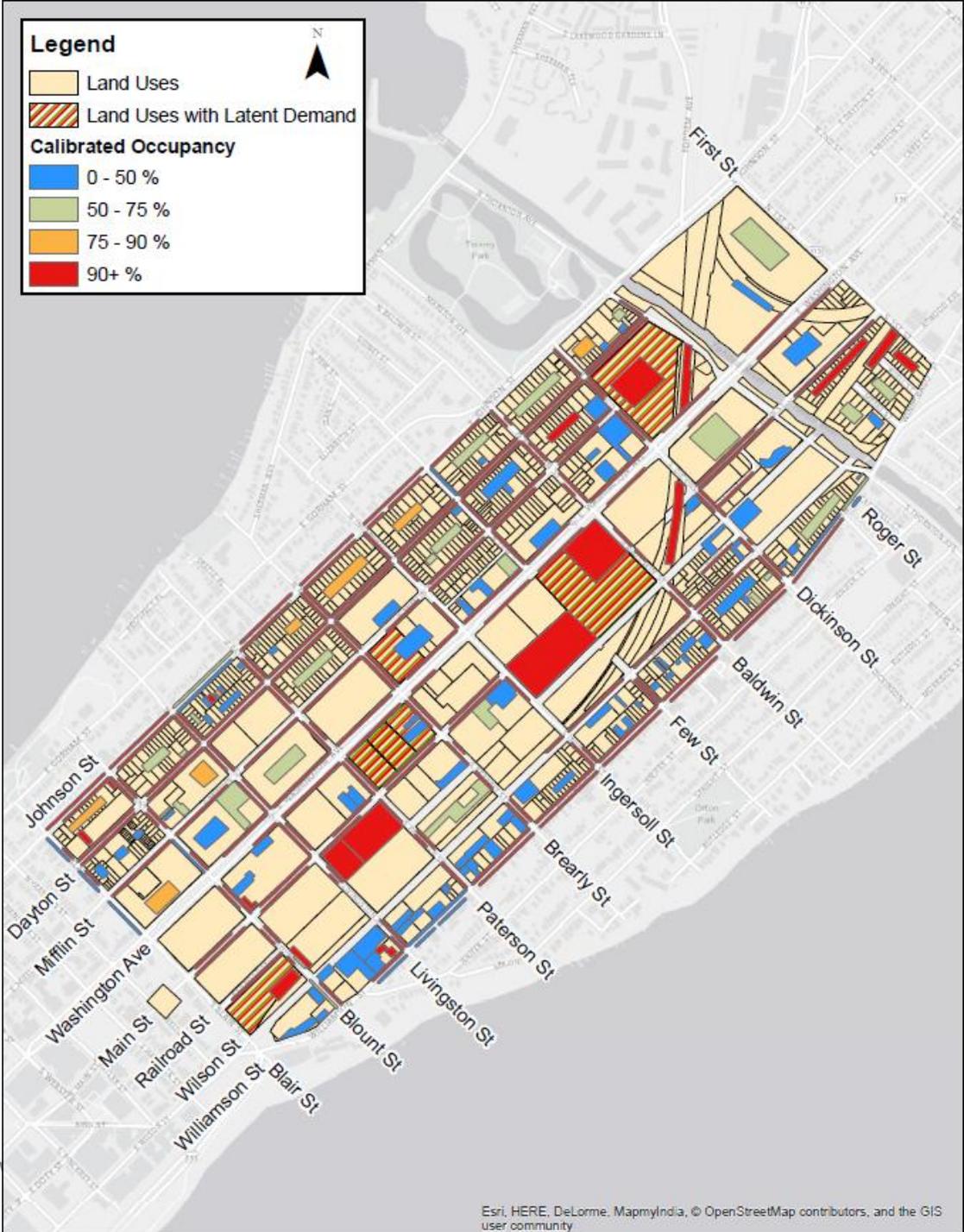
Area	Supply	Demand	Surplus/Deficit
N	61	94	-33
O	80	402	-322
P	650	0	650
Q	0	214	-221
R	90	105	-15
S	260	83	177
T	40	33	7
U	200	362	-162
V	70	21	49
W	888	596	292
X	250	333	-83
Y	340	265	75
M	1,036	723	309

Legend

- Land Uses
- Land Uses with Latent Demand

Calibrated Occupancy

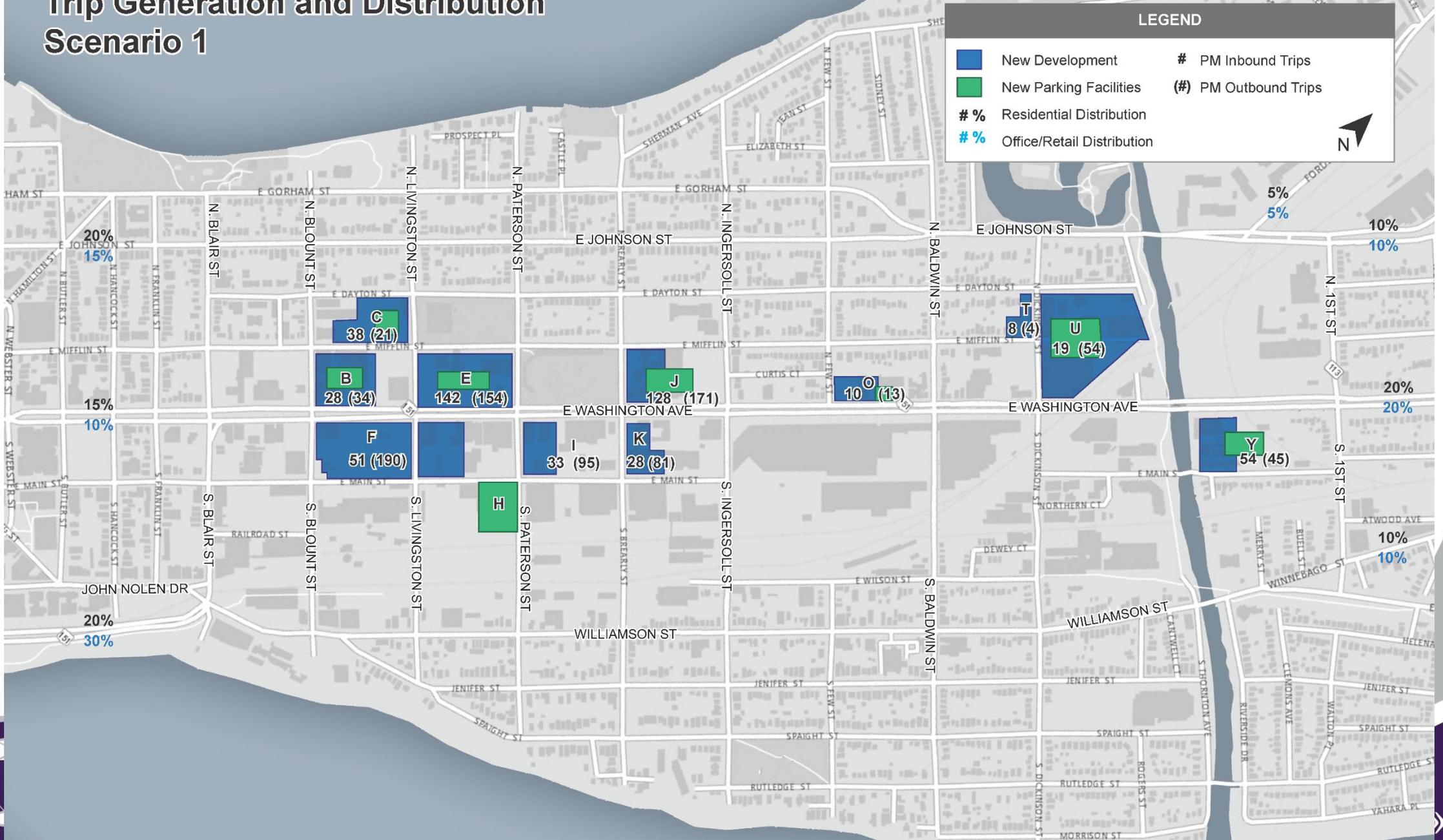
- 0 - 50 %
- 50 - 75 %
- 75 - 90 %
- 90+ %



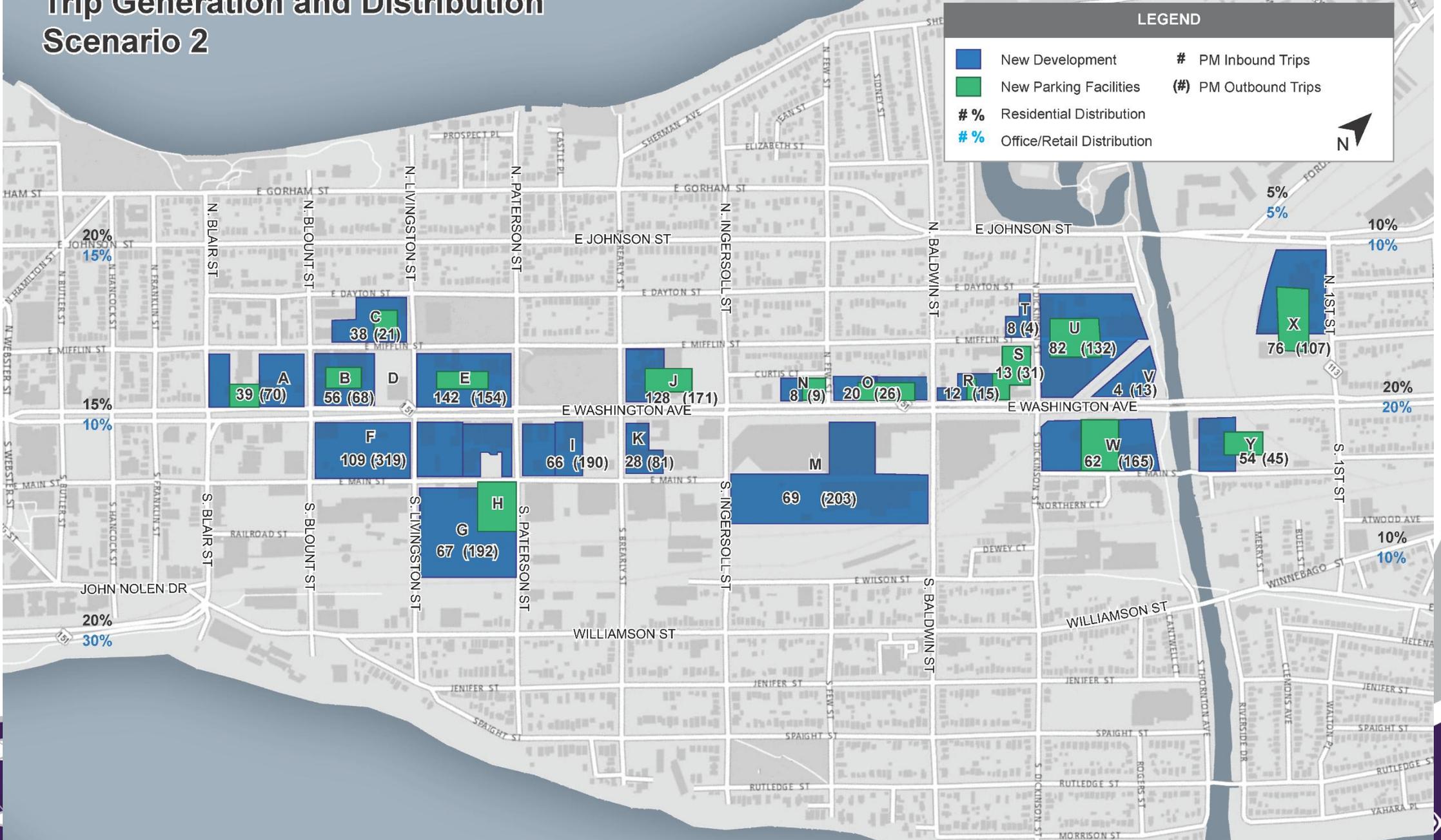
TRAFFIC IMPACTS FROM DEVELOPMENT AND PARKING



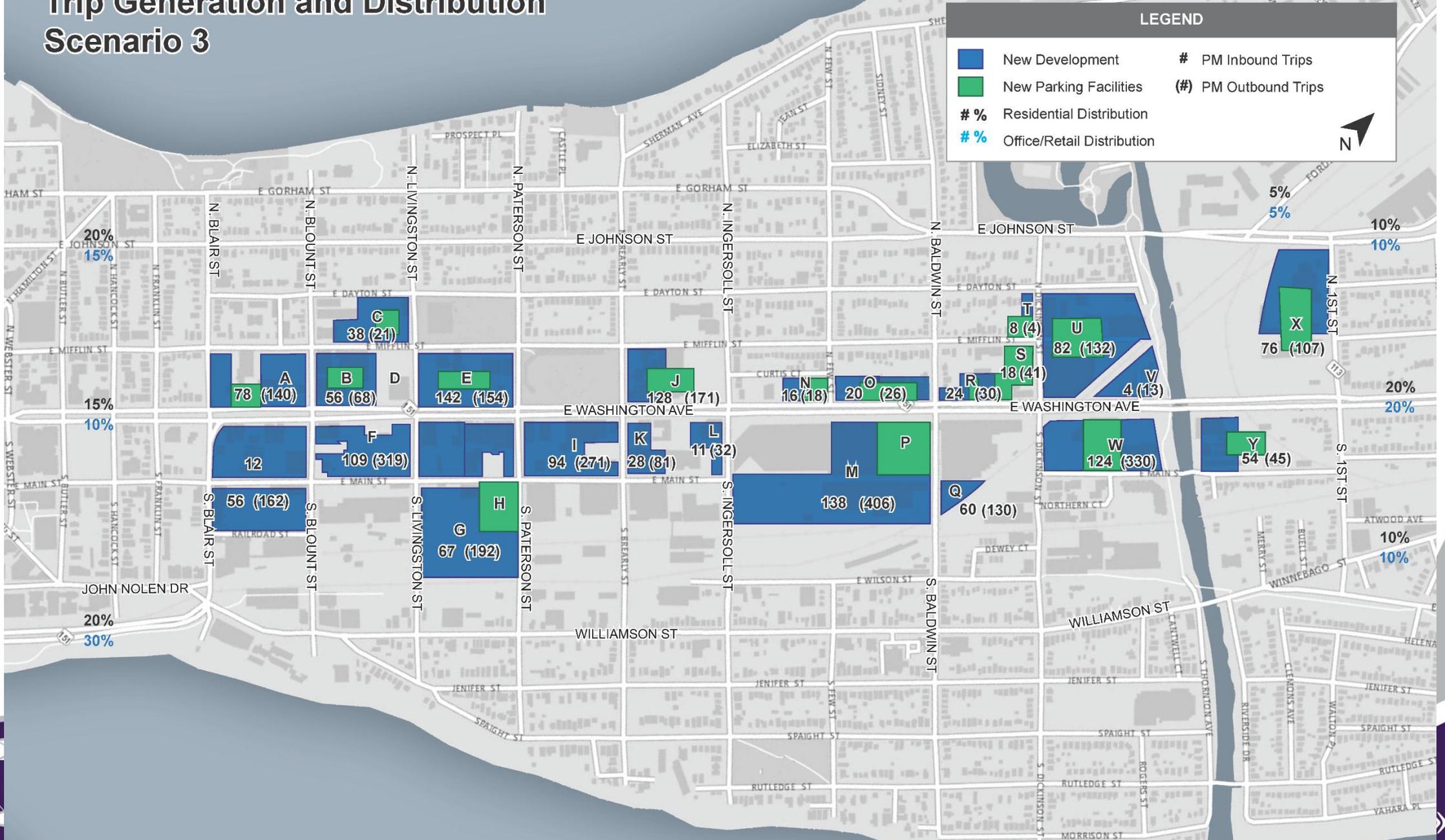
Trip Generation and Distribution Scenario 1



Trip Generation and Distribution Scenario 2



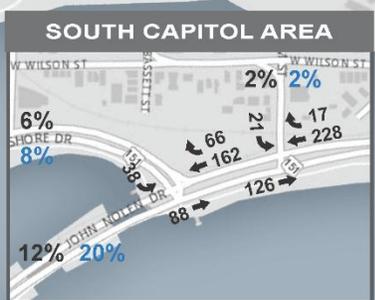
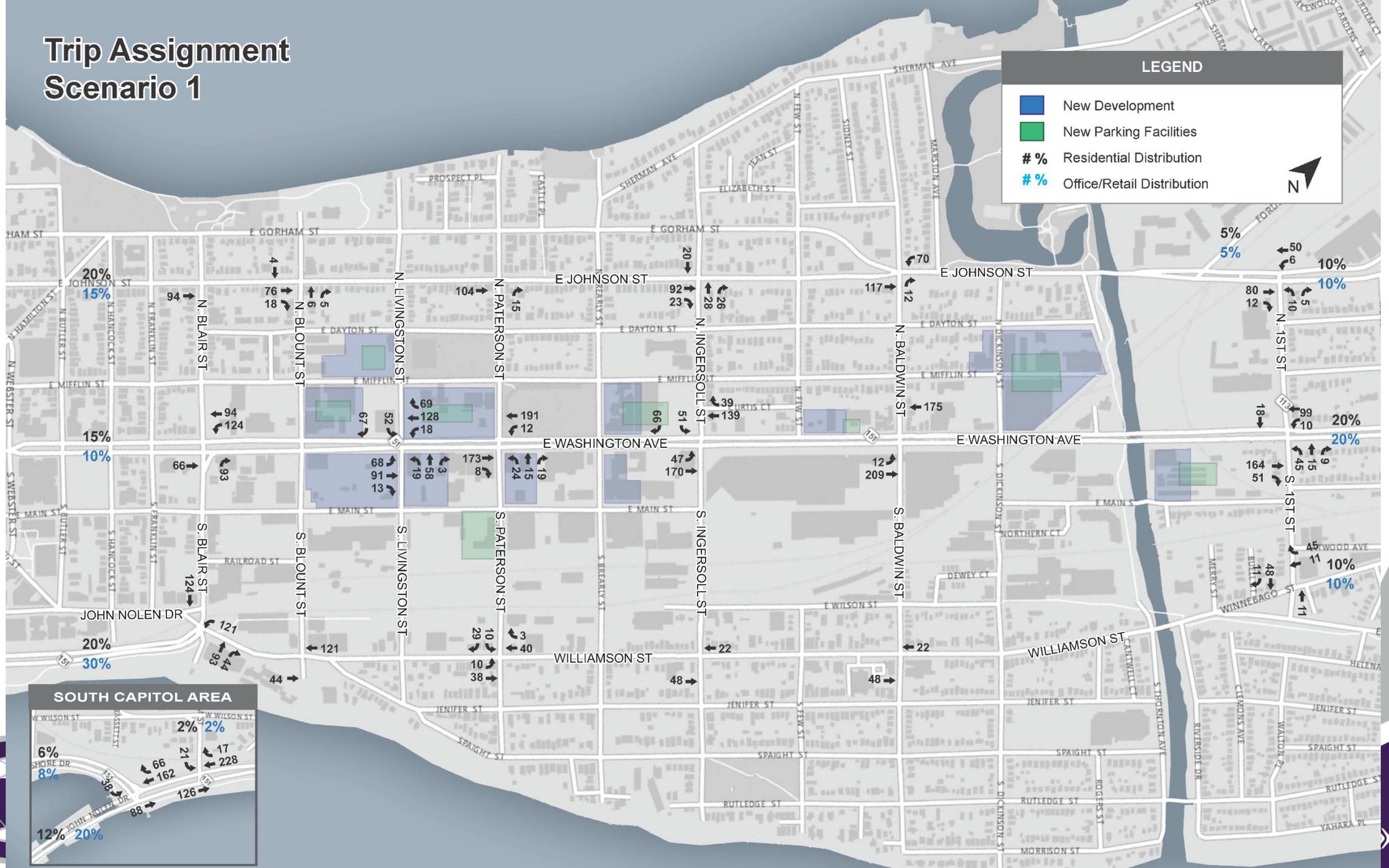
Trip Generation and Distribution Scenario 3



Trip Assignment Scenario 1

LEGEND

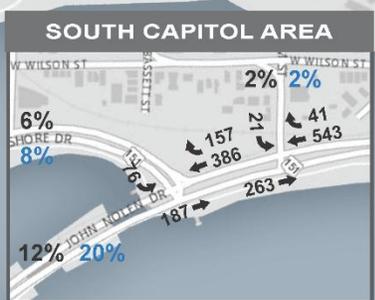
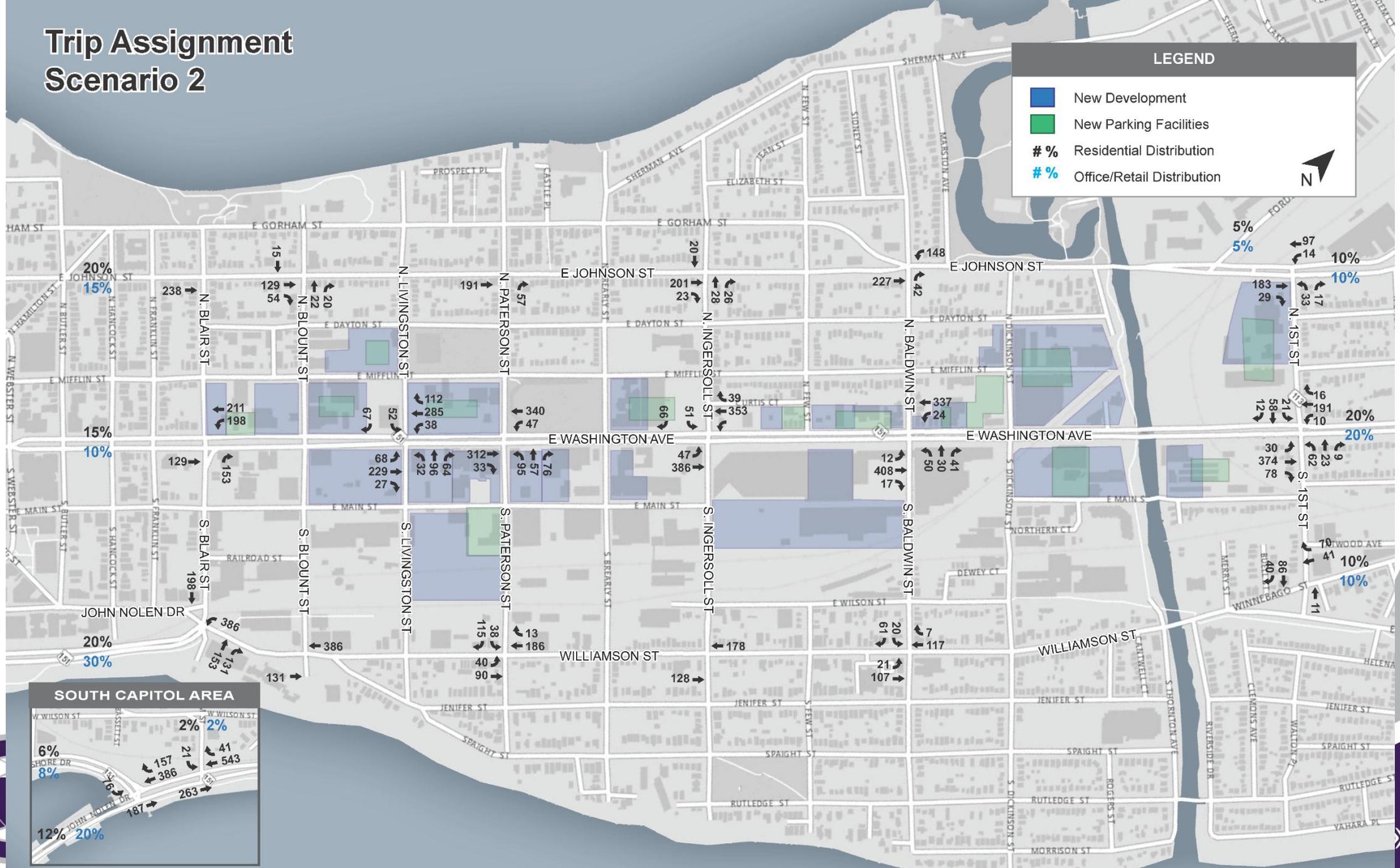
- New Development
- New Parking Facilities
- # % Residential Distribution
- # % Office/Retail Distribution



Trip Assignment Scenario 2

LEGEND

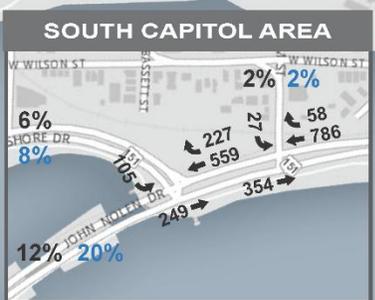
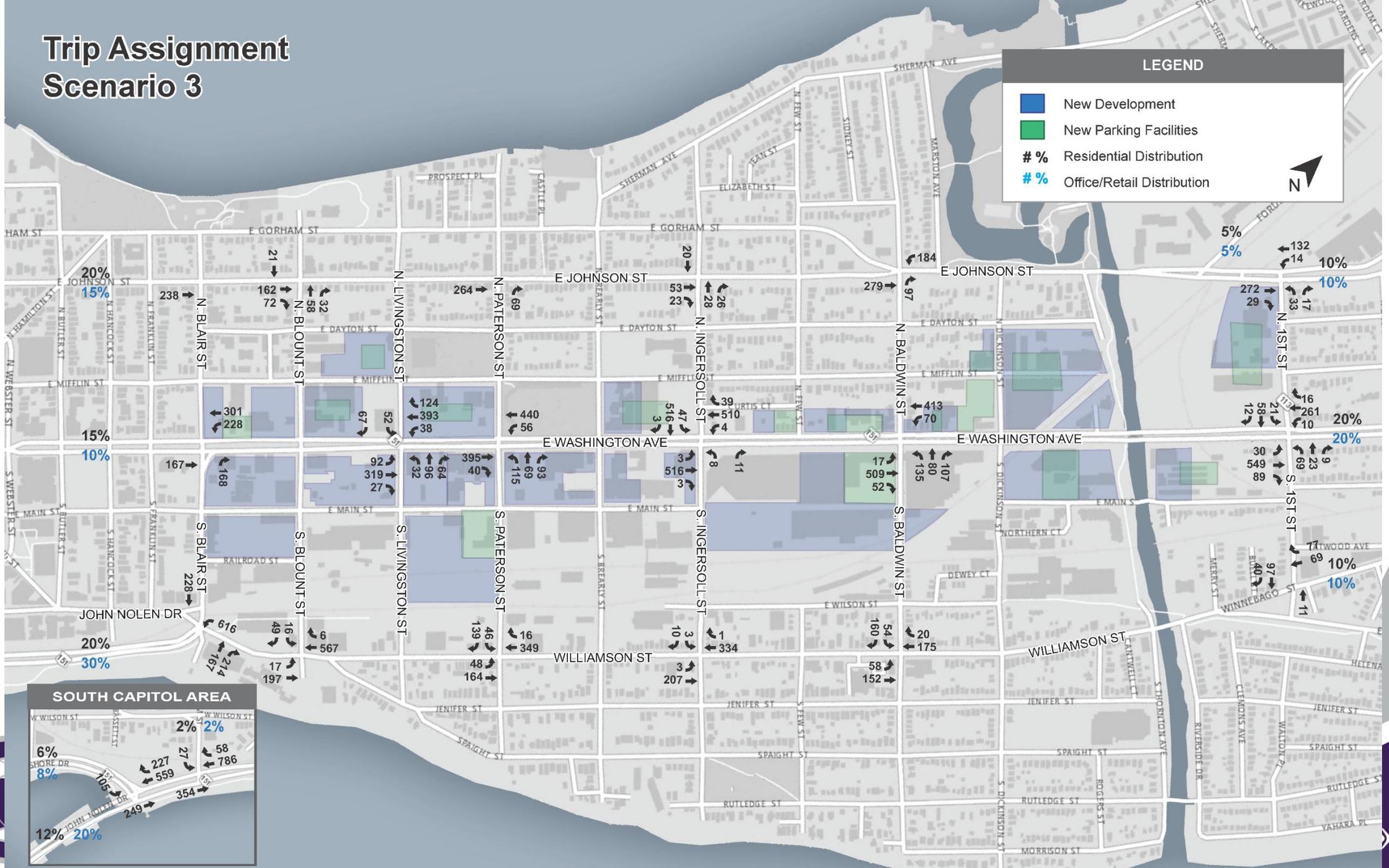
- New Development
- New Parking Facilities
- # % Residential Distribution
- # % Office/Retail Distribution



Trip Assignment Scenario 3

LEGEND

- New Development
- New Parking Facilities
- # % Residential Distribution
- # % Office/Retail Distribution



QUESTIONS?



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