

City Planning Commission

Parking Study Update

August 6, 2018

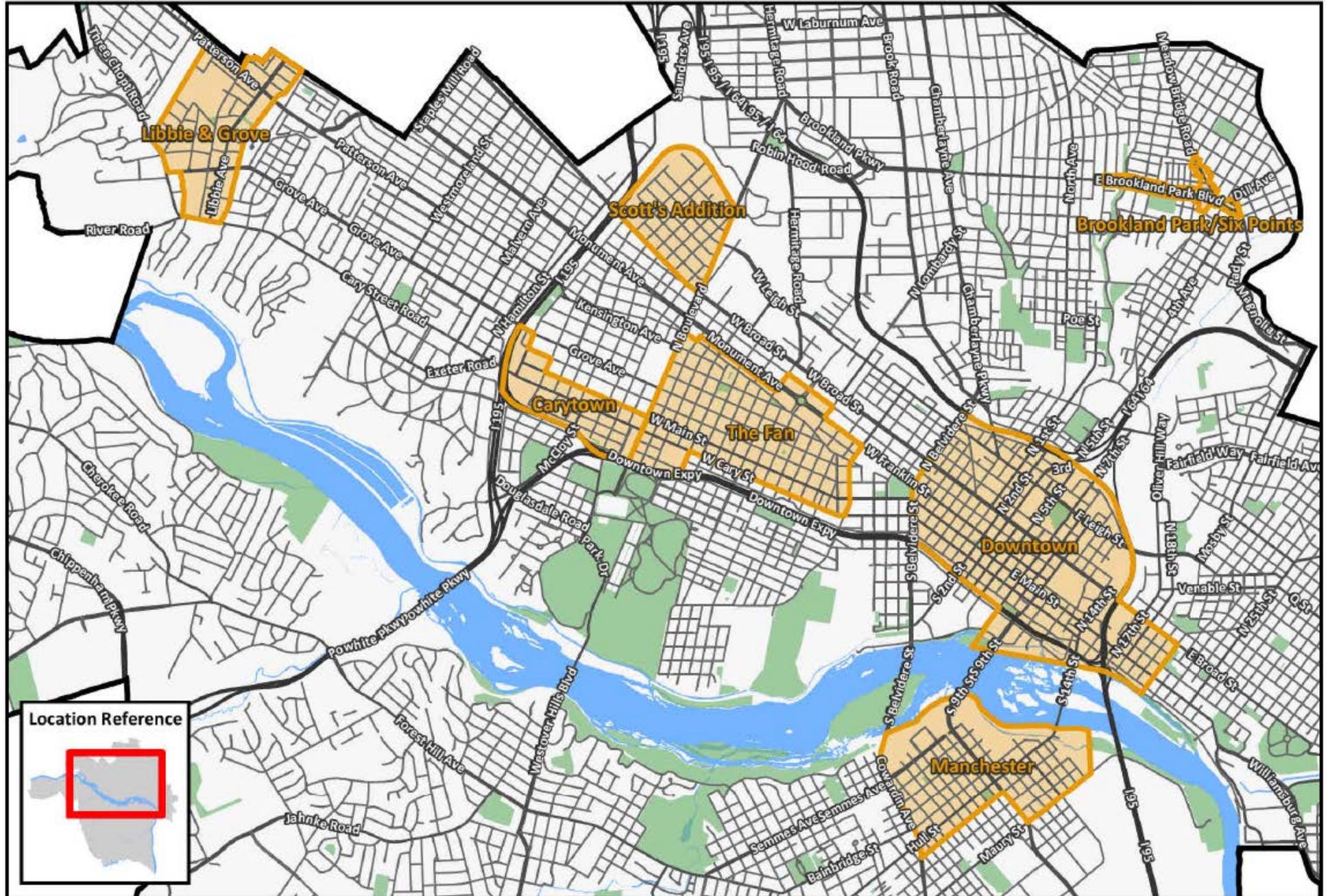
DESMAN
Design Management



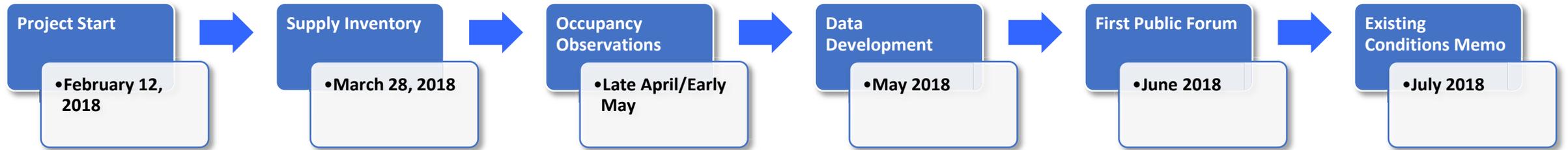
Scope of Engagement

- Assess Existing Conditions
 - Parking
 - Mobility
 - Zoning
- Project Future Needs
 - New Development
 - Redevelopment
 - Transit Improvements
- Develop Pro-Active Solutions and Initiatives
 - Management
 - Infrastructure
 - Governance
- Prepare a Structured Plan for Supporting Growth, Commerce, and Neighborhood Vitality

Areas of Study



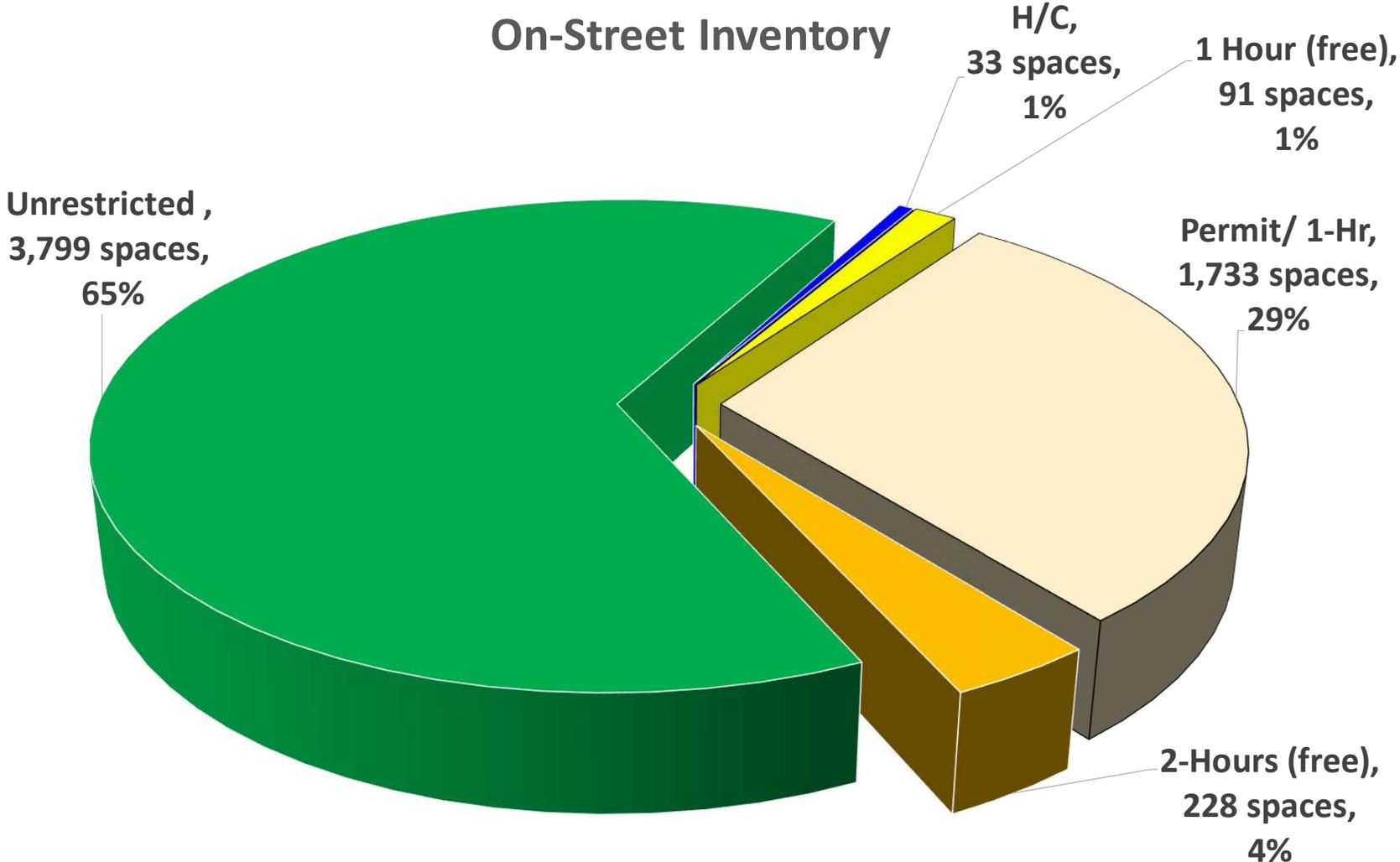
Work to Date



On-Street Parking Supply Inventory (March 2018)

- 6 Loading Zone
- 1 30-Min (free)
- 91 1-Hr (free)
- 1,733 Permit/1-Hr
- 228 2-Hr (free)
- 3,799 Unrestricted
- 33 H/C
- 5,891 Total Spaces**
(58% of Total Supply)

5,032 spaces in Effective Supply



Off-Street Parking Supply Inventory *(March 2018)*

- Four general categories: Private/Private, Private/Public, Public/Public, Public/Private
- 245 private facilities holding 4,300 spaces (42% of the total spaces)
- 241 Private/Private facilities holding 4,212 spaces (98% of Off-Street Supply)
 - 94 lots associated/designated as Residential (1,189 spaces)
 - 145 “Mixed Use” lots (& 1 structure) associated with businesses/institutions serving all users (~3,001 spaces)
 - 1 lot designated for Employees Only (4 spaces)
 - 1 lot designated for Customers Only (18 spaces)
- 4 public facilities holding 88 spaces (2% of Off-Street Supply)
 - 0 lots/garages/structures owned by public agencies, open to the public
 - 4 lots owned by public agencies, with restricted access (88 spaces)
- **Effective Parking Supply of 3,898 spaces**

The Fan Off-Street Parking



Parking Occupancy Observations

Four observations:

Weekday

Friday, April 27, 2018: mid-day (11:00 AM – 2:00 PM)

Friday, April 27, 2018: evening (5:00 PM – 7:00 PM)

Weekend

Saturday, April 28, 2018: mid-day (11:00 AM – 2:00 PM)

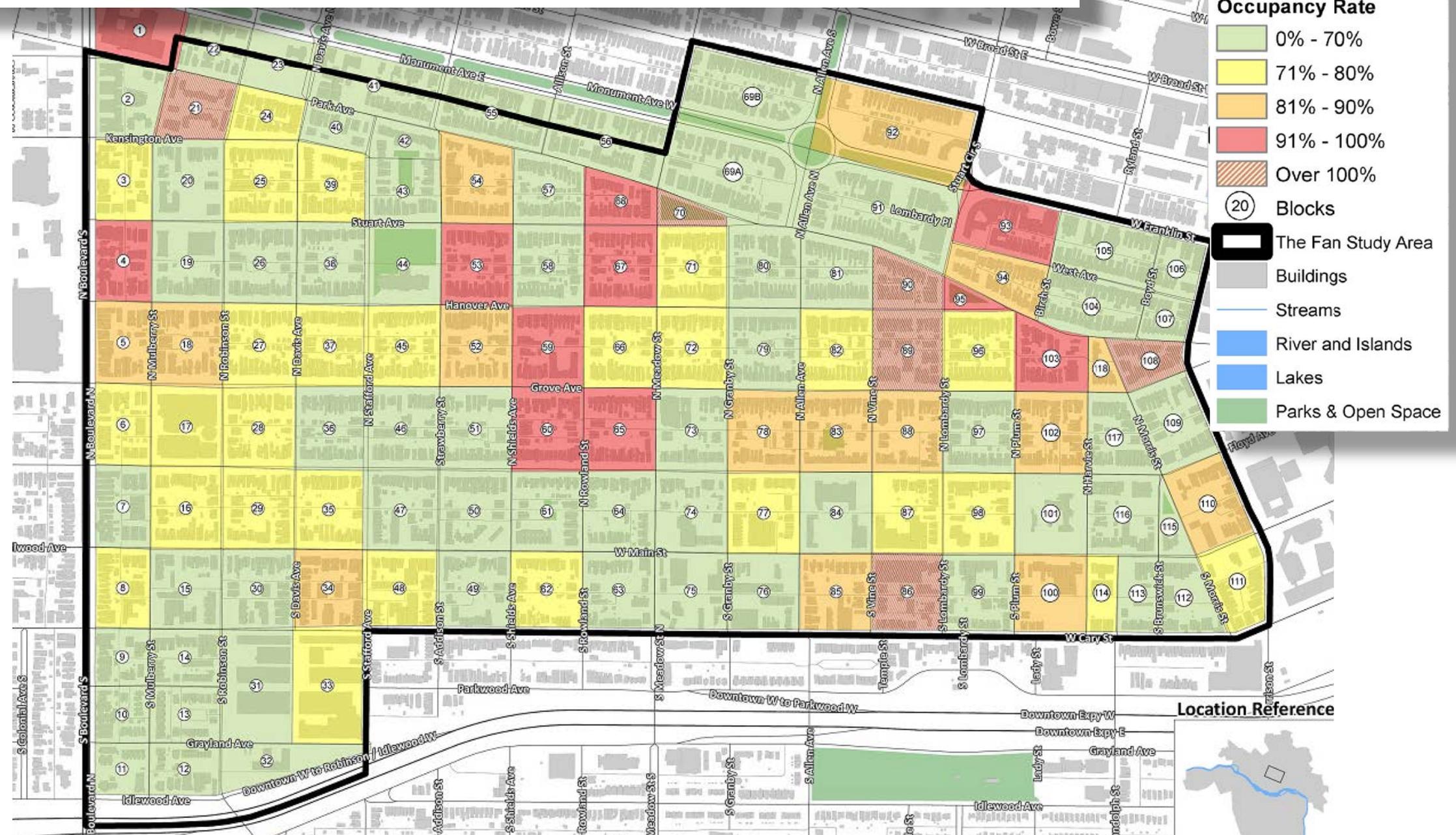
Saturday, April 28, 2018: evening (5:00 PM – 7:00 PM)

Weekday Parking Occupancy Observations

(Friday, April 27, 2018)

- On-Street Occupancy
 - 66% at mid-day (3,316 cars/ 5,032 spaces)
 - **89%** in the evening (4,446 cars/ 5,032 spaces)
- Off-Street Occupancy
 - **47%** at mid-day (1,838 cars/ 3,898 spaces)
 - 44% in the evening (1,714 cars/ 3,898 spaces)
- Total Occupancy
 - 58% at mid-day (5,146 cars/ 8,930 spaces)
 - **69%** in the evening (6,166 cars/ 8,930 spaces)
- 16 Blocks operating at or over capacity

Utilization of Parking by Block (Friday, 4/27 Evening Peak)

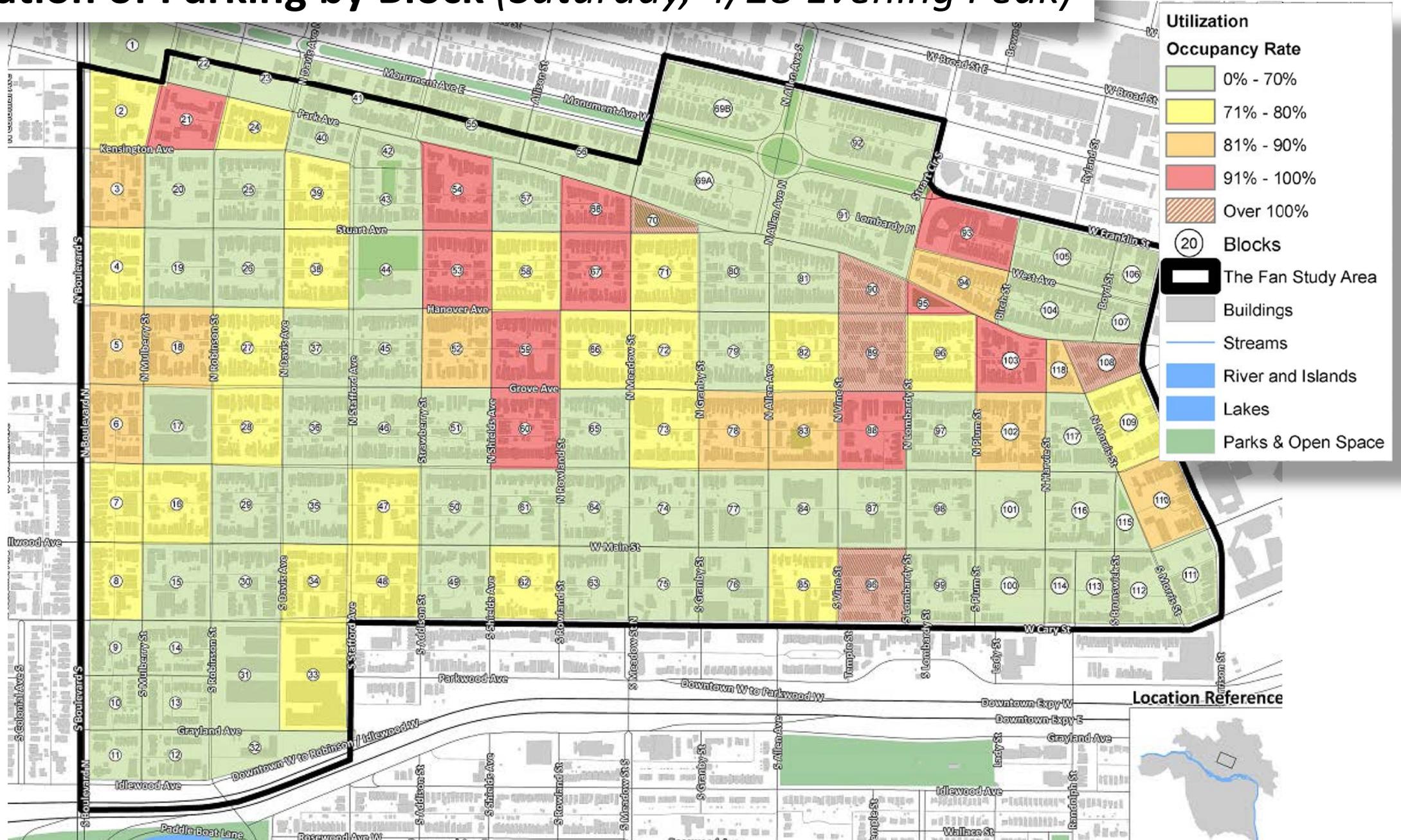


Weekend Parking Occupancy Observations

(Saturday, April 28, 2018)

- On-Street Occupancy
 - 83% at mid-day (4,189 cars/ 5,032 spaces)
 - **90%** in the evening (4,511 cars/ 5,032 spaces)
- Off-Street Occupancy
 - **38%** at mid-day (1,484 cars/ 3,898 spaces)
 - 38% in the evening (1,473 cars/ 3,898 spaces)
- Total Occupancy
 - 63% at mid-day (5,763 cars/ 8,930 spaces)
 - **67%** in the evening (5,984 cars/ 8,930 spaces)
- 16 Blocks operating at or over capacity

Utilization of Parking by Block (Saturday, 4/28 Evening Peak)



Preliminary Takeaways

- Residential presence drives all other trends
- On-street regimentation of parking demand could improve efficiency of use, reduce current capacity
- Significant underutilization of off-street assets presents immediate opportunities to mitigate demand
- Proposed solutions MUST incorporate support and promotion of multi-modality
- Value assignments could help improve voluntary turnover and demand dispersal
- Any development of new infrastructure must consider opportunity costs, as well as fiscal ones

Public Hearing (6/13/18 @ 8:30 AM)

- Approximately 50 attendees
- Stated concerns:
 - Exclusion of the Uptown, Monument Avenue, VCU districts during field work
 - Field work did not capture later evening conditions
 - Intrusion of VCU students from campus/ Visual Arts Center into residential districts
 - Controlling residential parking rights, especially in converted multiple-unit residences
 - Impacts of the new development (Ferry Street Station) at Parkland & Mulberry
 - Management of truck deliveries/loading zones
 - Incentivizing great use of Doctor's Retreat Garage
 - Monitoring of dumpster "parking" during remodeling projects
 - Definition of on-street parking areas and "no parking zones"

Initiatives Under Consideration

- Executing additional inventories and occupancy counts in select areas
- Evaluation of policies and mechanisms to discourage long-term parking at curbs by non-residents
- Evaluation and revision of current residential parking permit program
- Influencing parking behaviors through pricing incentives
- Review and modification of dumpster parking policies
- Geometrics/impact of designating curbside stall dimensions and “no parking zones”
- Methods/impacts for enhancing curbside parking enforcement
- Barriers to broader implementation of Shared Parking arrangements
- Feasibility of establishing public off-street assets
- Designation and management for “specialty” parking areas
- Parking as part of a larger mobility strategy

Fan Expansion Inventoried (July 2018)



Fan Expansion to be Counted (Fall 2018)



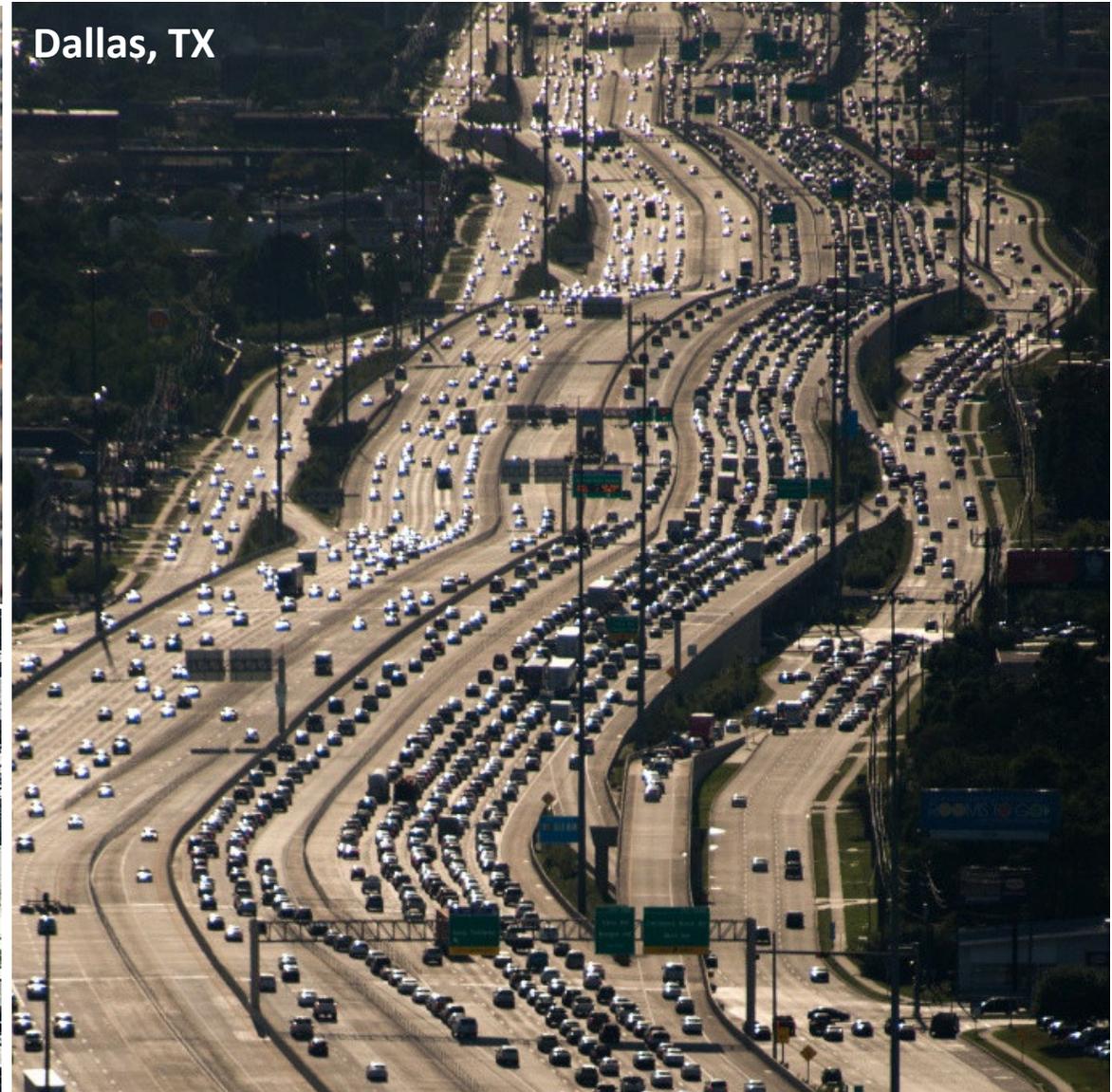
Summary of Key Issues/Trends

- Definition of curbside spaces and “no parking zones”
- Methodology for designating curbside ADA spaces
- Review/revision of zoning requirements
- Coordination of parking policy with mobility initiatives, emerging transportation technologies
- Regulation/management of commercial and residential parking needs
- Clear mechanisms for developing shared use agreements (operations)
- Regulation of length of stay and promotion of turnover
- Land banking against future development needs
- Pro-active measures to support emerging development

Parking must be part of a Multi-Modal Solution



Policy decisions which reinforce “car centric” modes..



...End up defining a city's future and fortunes.



Multi-Modalism frees up land and funds for other uses,



Church Street, Burlington, VT - 1978

Church Street, Burlington, VT - 2018



And lets cities grow to meet their full potential.



Boston



New York



San Francisco



Chicago

Next Steps

Finalize Existing Conditions

- Initial Draft in development
- Additional field work to be performed shortly
- Zoning analysis in process
- Final draft by end of August 2018

Future Needs Assessment

- Based on Programmed, Planned and Proposed Future Developments & Transportation Improvements
- Analysis complete by end of August
- Draft due mid-September 2018

Recommendation Development

- “Long List” Recommendations (Early October 2018)
- Long list to be vetted during Stakeholder Meetings

Stakeholder Meetings

- Small Group Meetings: September 10-14
- Second Public Forums: October 15-19, 2018

“Short List” and Final Report

- “Short List” by end of October 2018
- Draft Report by Thanksgiving 2018

City Planning Commission

Back up Slides

Libbie/ Grove/ Patterson Study Area

- 279 Acres
- 35 City Blocks
- 1,542 On-Street Spaces (47%)
- 1,713 Off-Street Spaces (53%)
- 3,255 Total Spaces

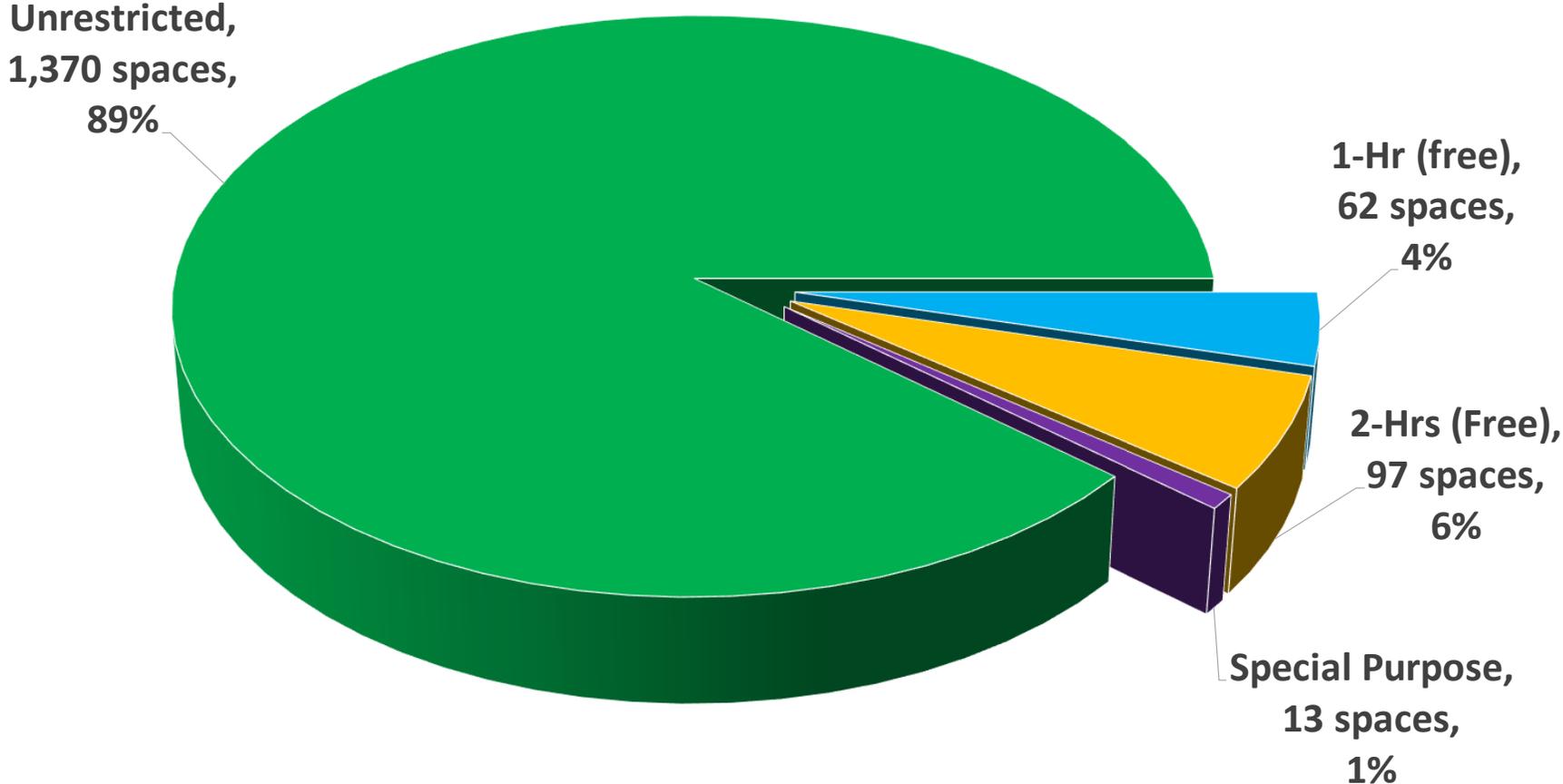


Additional
area of
study

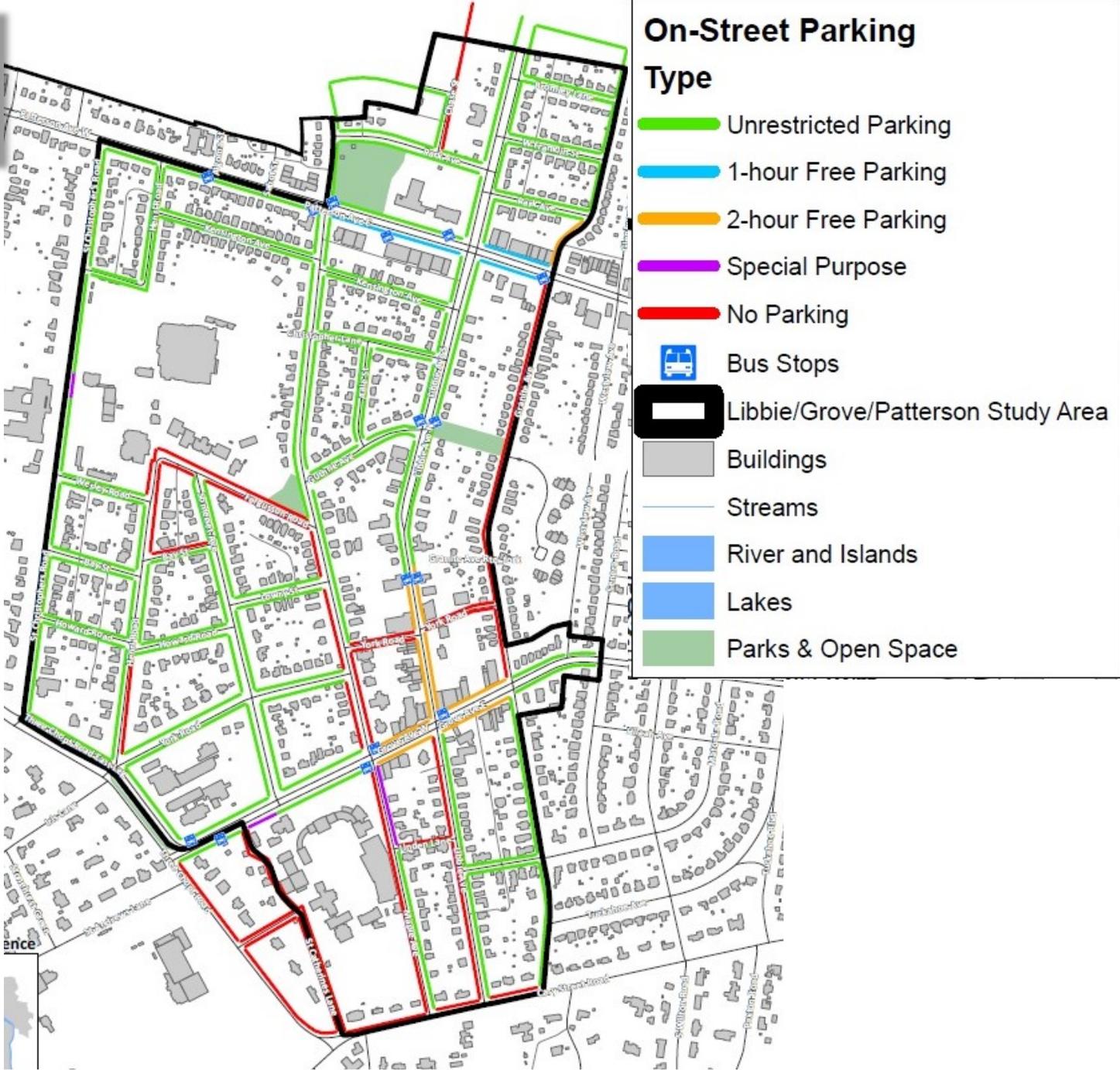
On-Street Parking Supply Inventory (March 2018)

On-Street Occupancy

13 Special Purpose
62 1-Hr (free)
97 2-Hr (free)
1,370 Unrestricted
1,542 Total Spaces
(47% of Total Supply)
1,282 spaces in Effective Supply



Libbie/Grove/Patterson On-Street Parking



Off-Street Parking Supply Inventory *(March 2018)*

- Four general categories:
 - Private/Private
 - Private/Public
 - Public/Public
 - Public/Private
- 67 private facilities holding 1,713 spaces (53% of the spaces)
 - 12 lots associated with Schools and/or Churches (493 spaces)
 - 48 lots associated with businesses (1,047 spaces)
 - 7 lots associated with residential buildings (173 spaces)
 - Counts did not include private driveways or garages
- No public parking facilities within the study area
- **Effective Parking Supply of 1,542 spaces**

Libbie/Grove/Patterson Off-Street Parking



Parking Occupancy Observations

- Six observations:
 - Thursday, May 3, 2018: morning (8:00 – 10:00 AM)
 - Thursday, May 3, 2018: mid-day (11:00 AM – 2:00 PM)
 - Thursday, May 3, 2018: evening (5:00 PM – 7:00 PM)
 - Saturday, May 5, 2018: morning (8:00 – 10:00 AM)
 - Saturday, May 5, 2018: mid-day (11:00 AM – 2:00 PM)
 - Saturday, May 5, 2018: evening (5:00 PM – 7:00 PM)
- Data capture by drone
- Captures every car as a photographic image
- Digitizes images and converts them to GIS data point and numerical counts
- Data checked in field and by photographic review

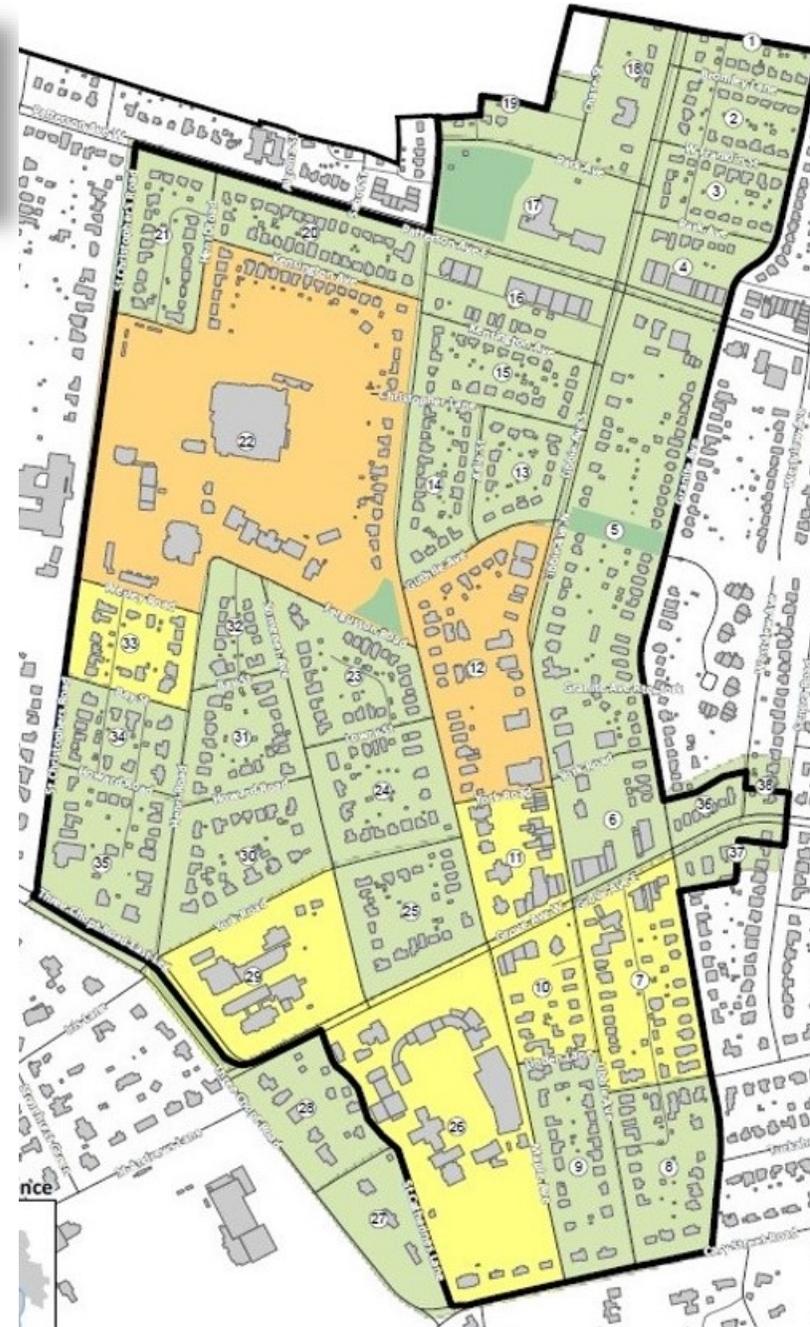
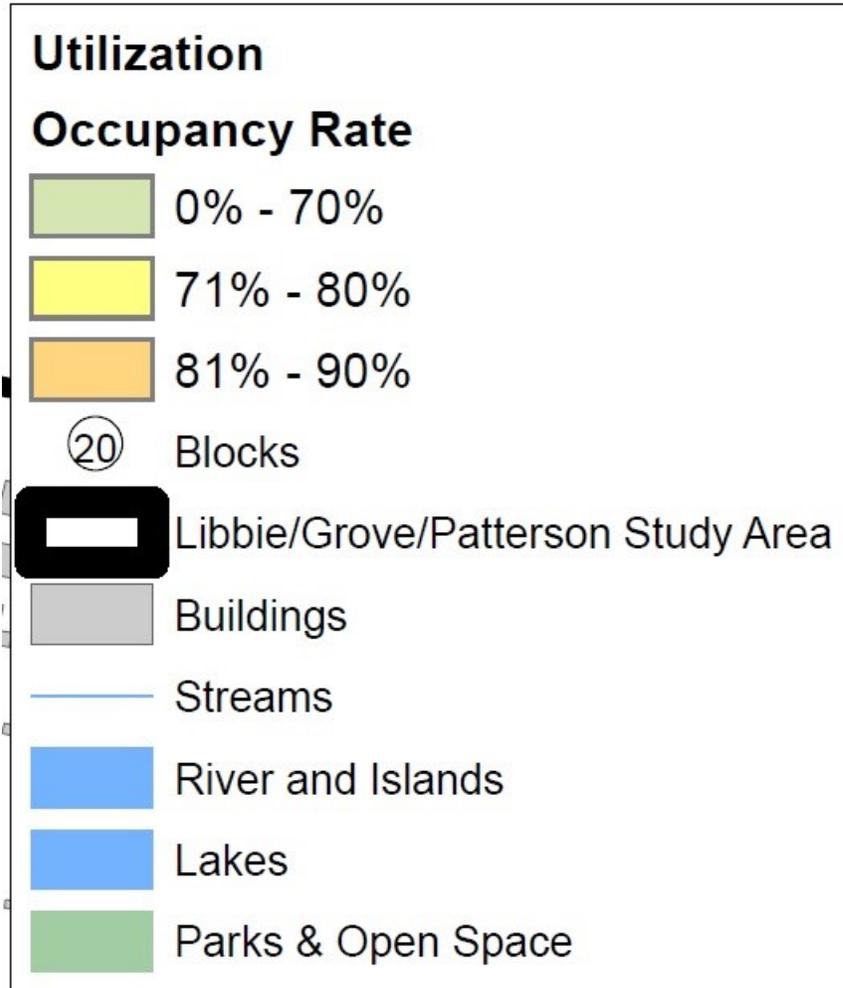


Weekday Parking Occupancy Observations

(Thursday, April 3, 2018)

- On-Street Occupancy
 - **47%** in the morning (605 cars/ 1,282 spaces)
 - 46% at mid-day (593 cars/ 1,282 spaces)
 - 46% in the evening (590 cars/ 1,282 spaces)
- Off-Street Occupancy
 - 63% in the morning (973 cars/ 1,542 spaces)
 - **65%** at mid-day (997 cars/ 1,542 spaces)
 - 39% in the evening (599 cars/ 1,542 spaces)
- Total Occupancy
 - 56% in the morning (1,578 cars/ 2,824 spaces)
 - **56%** at mid-day (1,590 cars/ 2,824 spaces)
 - 42% in the evening (1,189 cars/ 2,824 spaces)
- 0 Blocks operating at or over capacity

Weekday Utilization of Parking by Block (Thursday, 5/3 Mid-Day Peak)

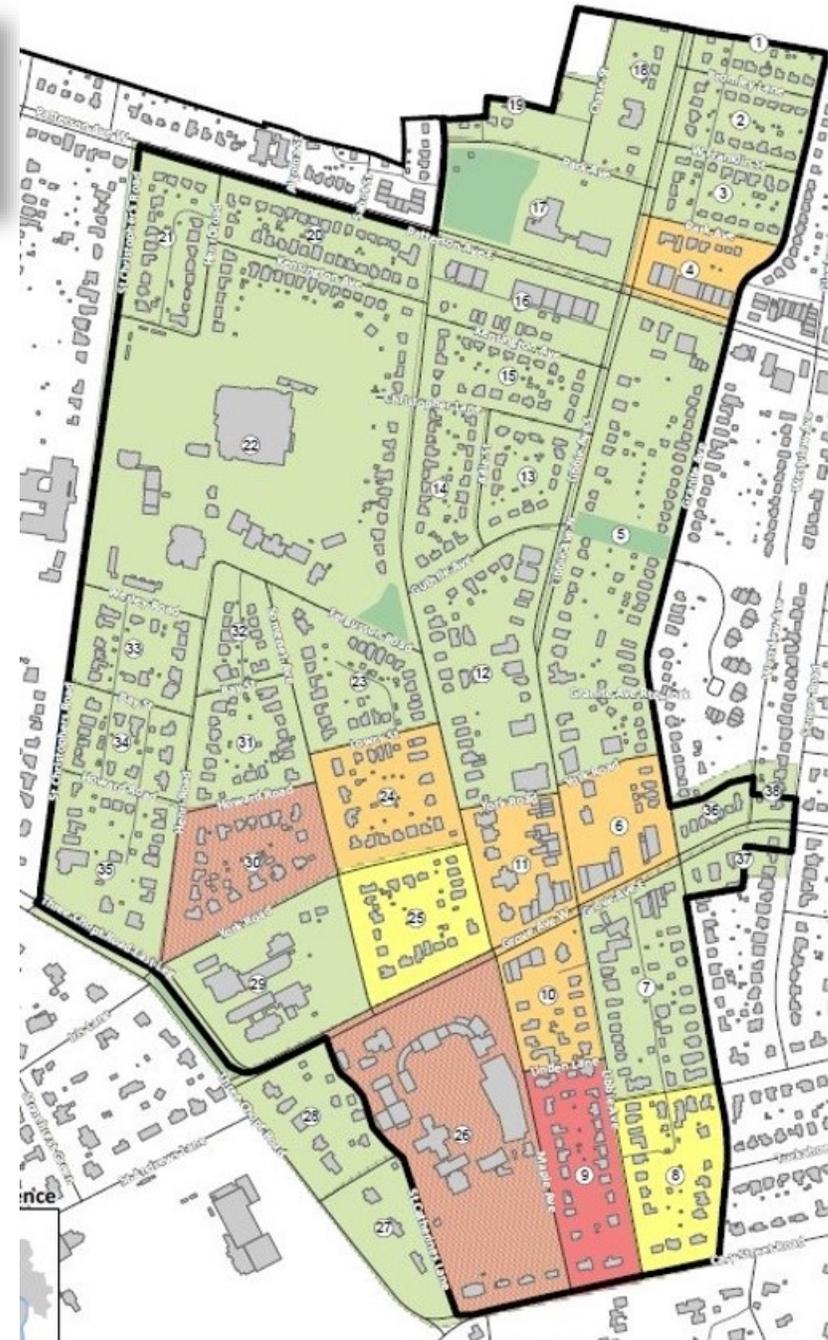
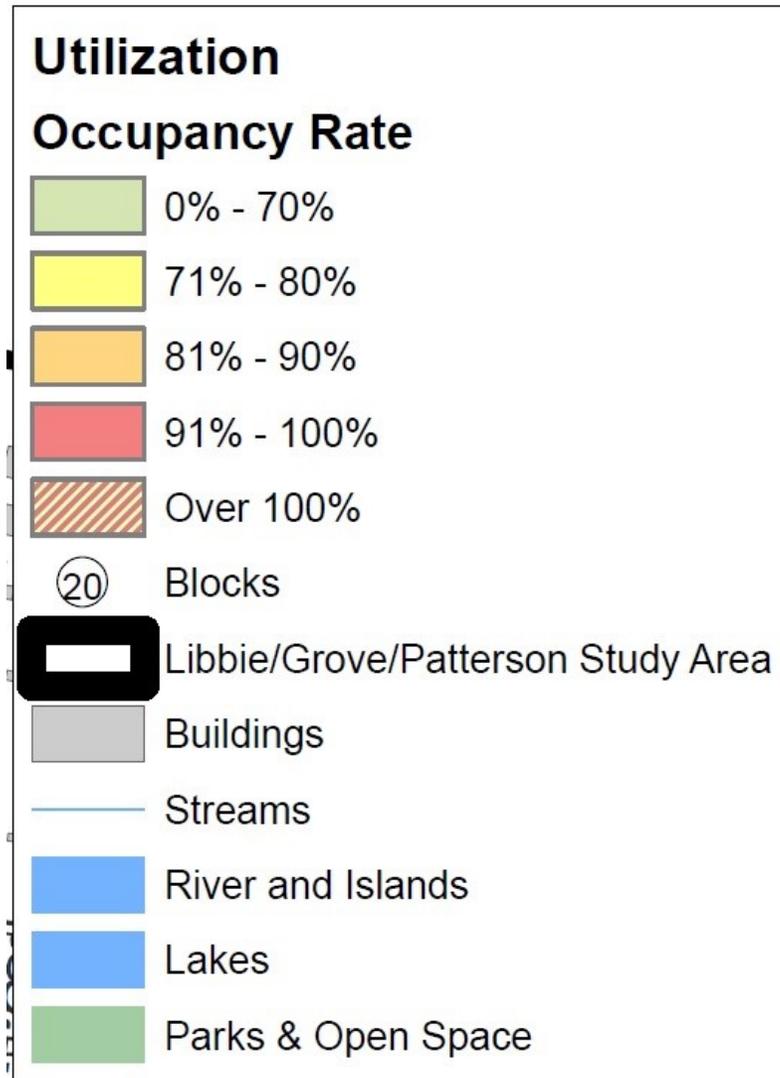


Weekend Parking Occupancy Observations

(Saturday, April 5, 2018)

- On-Street Occupancy
 - 50% in the morning (642 cars/ 1,282 spaces)
 - **63%** at mid-day (802 cars/ 1,282 spaces)
 - 43% in the evening (557 cars/ 1,282 spaces)
- Off-Street Occupancy
 - 30% in the morning (464 cars/ 1,542 spaces)
 - **55%** at mid-day (847 cars/ 1,542 spaces)
 - 25% in the evening (386 cars/ 1,542 spaces)
- Total Occupancy
 - 39% in the morning (1,106 cars/ 2,824 spaces)
 - **58%** at mid-day (1,649 cars/ 2,824 spaces)
 - 33% in the evening (943 cars/ 2,824 spaces)
- 3 Blocks operating at or over capacity

Weekend Utilization of Parking by Block (Saturday, 5/5 Mid-Day Peak)



Preliminary Takeaways

- Weekend conditions were events at St. Catherines, St. Bridget or Saint Stephens - and –
- Overflow from the southern commercial district at Libbie and Grove
- Demarcation of on-street “curbside” parking is very irregular and needs standardization
- Shared-use initiatives could alleviate pressures on some blocks with constrained curbside parking
- Area needs designation and regulation of parking relative to intersections and curb cuts to address life safety issues
- The area could introduce pro-bike initiatives with relative ease (based on roadway dimensions), but would need to invest significantly to standardize pedestrian networks

Public Hearing (6/16/18 @ 10:00 AM)

- Approximately 25 attendees
- Stated concerns:
 - Elimination of a quasi-public parking asset (e.g. theater lot)
 - Curbside turnover
 - Employee parking management
 - Traffic flow and patterns across the district
 - Ease/viability of pedestrian movements, especially across Patterson Avenue
 - Curbside ADA parking space
 - Possibility of charging for parking
 - Definition of on-street parking stalls

Initiatives Under Consideration

- Geometrics/impact of designating curbside stall dimensions and “no parking zones”
- Proposed regulations regarding provision of on-street ADA spaces
- Barriers to broader implementation of Shared Parking arrangements
- Potential for parking permit programs for residents and employees
- Advisability of enhanced time enforcement
- Advisability of conversion to paid parking to encourage turnover
- Feasibility and cost of improving pedestrian connections
- Regulation of curbside parking near area institutions
- Parking/roadway design as traffic calming measures

Brookland Park

Brookland Park/ Six Points Study Area

- 74 Acres
- 64 City Blocks
- 770 On-Street Spaces (48%)
- 838 Off-Street Spaces (52%)
- 1,608 Total Spaces



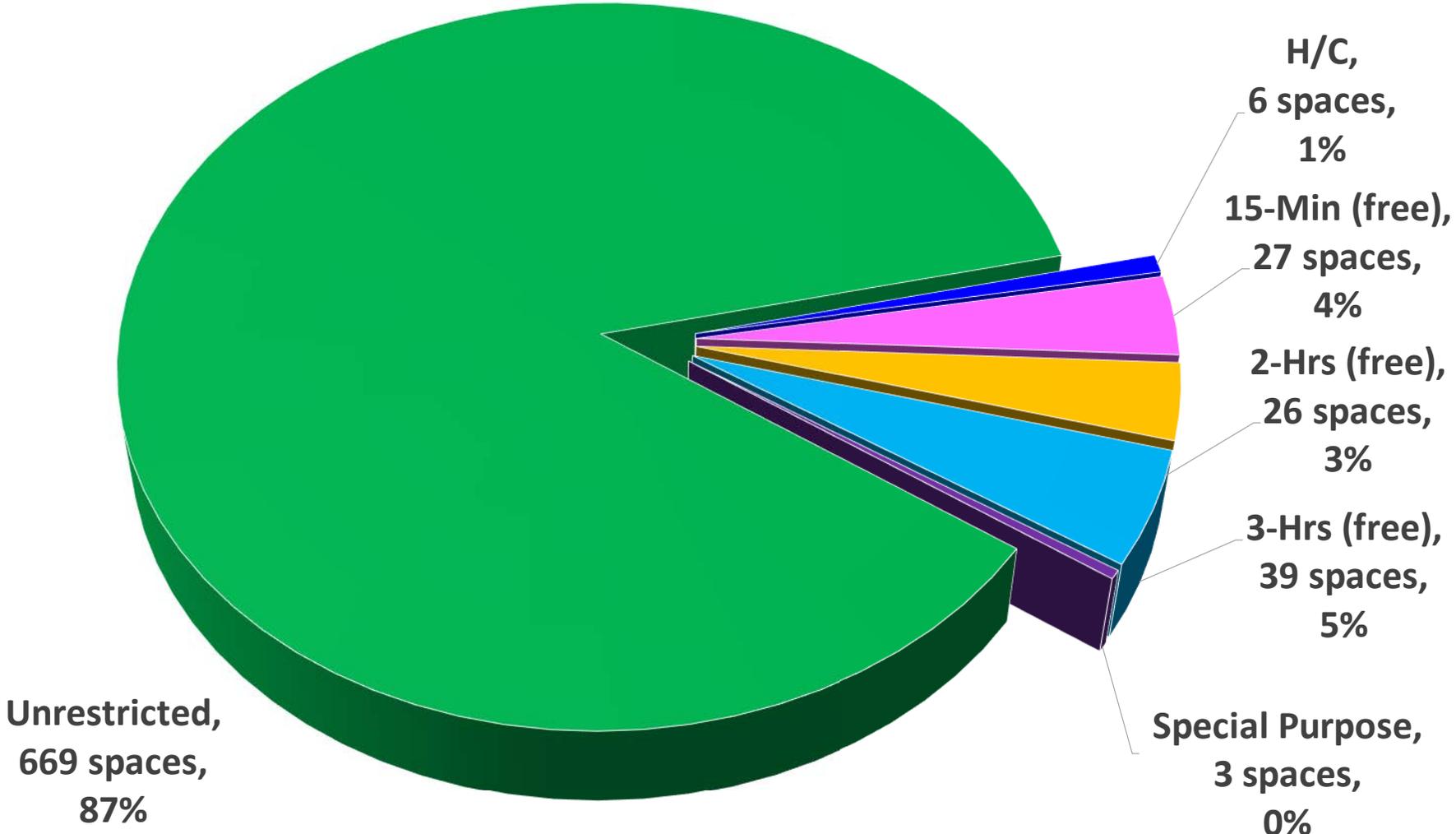
Six Points



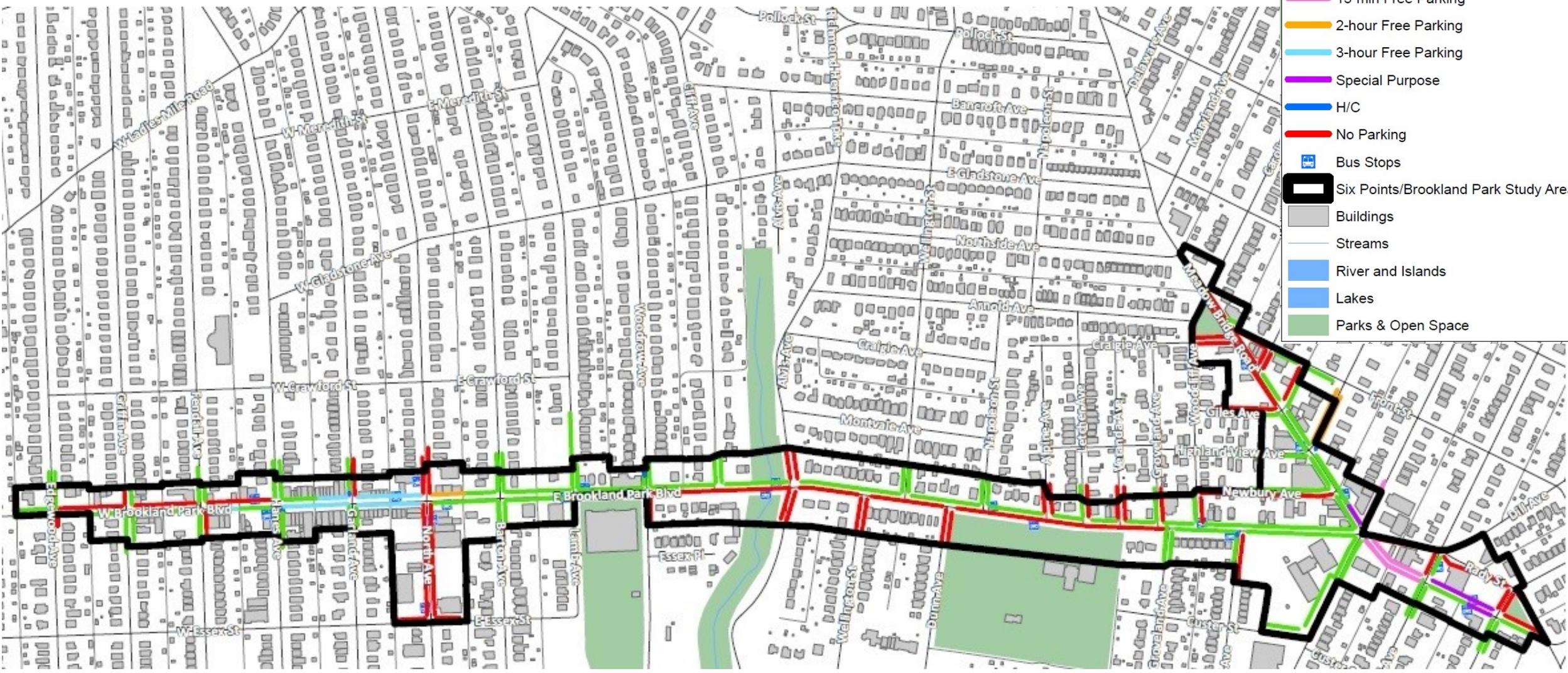
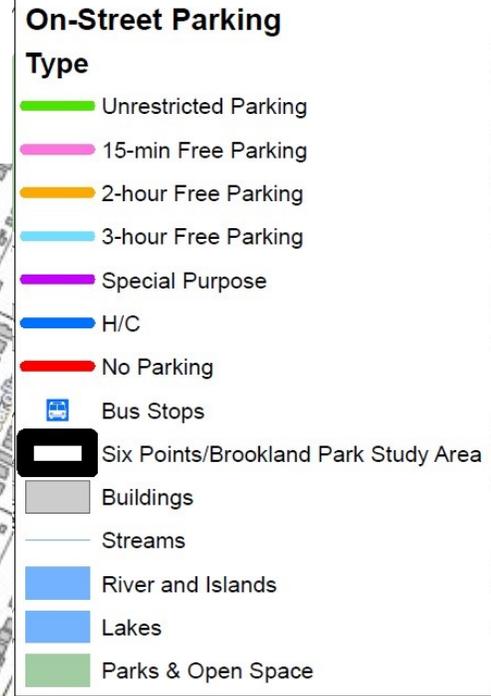
On-Street Parking Supply Inventory (March 2018)

On-Street Parking Inventory

27 15-Min (free)
 3 Special Purpose
 26 2-Hr (free)
 6 HC Spaces
 39 3-Hr (free)
 669 Unrestricted
770 Total Spaces
 (48% of Total Supply)
656 spaces in Effective Supply



Brookland Park / Six Points On-Street Parking



Off-Street Parking Supply Inventory *(March 2018)*

- 50 facilities holding 838 spaces (52% of the spaces)
- 46 Privately-Owned/Private Access Lots (687 spaces – 82%)
 - 7 lots associated/designated as Residential (66 spaces)
 - 39 lots associated with businesses/institutions serving all users (621 spaces)
 - No facilities designated as serving Employees
- 4 Publicly-Owned Assets (151 spaces – 18%)
 - Hotchkiss Park Lot (22 spaces) – Public/Public
 - North Avenue Branch Library (24 spaces) – Public/Public
 - Richmond Community High School (96 spaces) – Public/Private
 - U.S. Post Office (9 spaces) – Public/Private
- **Effective Parking Supply of 758 spaces**

Parking Occupancy Observations

Five observations:

- ***Weekday***
 - Tuesday, May 1, 2018: mid-day (11:00 AM – 2:00 PM)
 - Tuesday, May 1, 2018: evening (5:00 PM – 7:00 PM)
- ***Weekend***
 - Saturday, April 28, 2018: morning (9:00 AM – 11:00 AM)
 - Saturday, April 28, 2018: mid-day (11:00 AM – 2:00 PM)
 - Saturday, April 28, 2018: evening (5:00 PM – 7:00 PM)

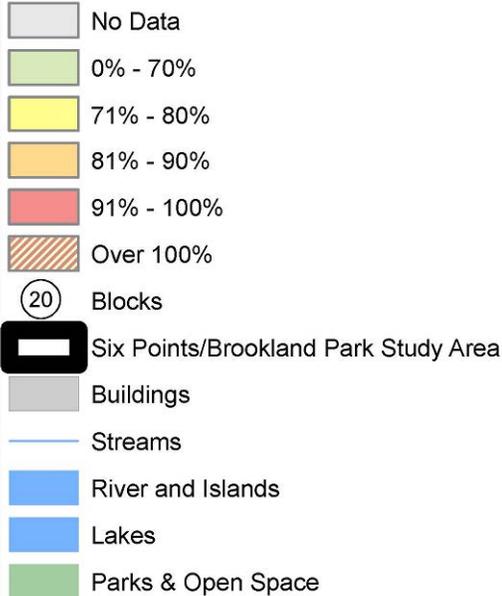
Weekday Parking Occupancy Observations

(Tuesday, May 1, 2018)

- On-Street Occupancy
 - 34% at mid-day (226 cars/ 656 spaces)
 - **36%** in the evening (236 cars/656 spaces)
- Off-Street Occupancy
 - **39%** at mid-day (297 cars/ 758 spaces)
 - 37% in the evening (280 cars/758 spaces)
- Total Occupancy
 - **37%** at mid-day (523 cars/ 1,414 spaces)
 - 36% in the evening (516 cars/1,414 spaces)
- 7 Blocks operating at or over capacity

Utilization of Parking by Block (Tuesday, 5/1 Mid-Day Peak)

Occupancy Rate



Weekend Parking Occupancy Observations

(Saturday, April 28, 2018)

- On-Street Occupancy
 - 28% in the morning (182 cars/656 spaces)
 - **45%** at mid-day (296 cars/ 656 spaces)
 - 39% in the evening (258 cars/656 spaces)
- Off-Street Occupancy
 - 22% in the morning (167 cars/ 758 spaces)
 - **38%** at mid-day (285 cars/ 758 spaces)
 - 31% in the evening (232 cars/758 spaces)
- Total Occupancy
 - 25% in the morning (349 cars/1,414 spaces)
 - **41%** at mid-day (581 cars/ 1,414 spaces)
 - 36% in the evening (490 cars/1,414 spaces)
- 8 Blocks operating at or over capacity

Utilization of Parking by Block (Saturday, 4/28 Mid-Day Peak)

Occupancy Rate

- No Data
- 0% - 70%
- 71% - 80%
- 81% - 90%
- 91% - 100%
- Over 100%

20 Blocks

Six Points/Brookland Park Study Area

Buildings

Streams

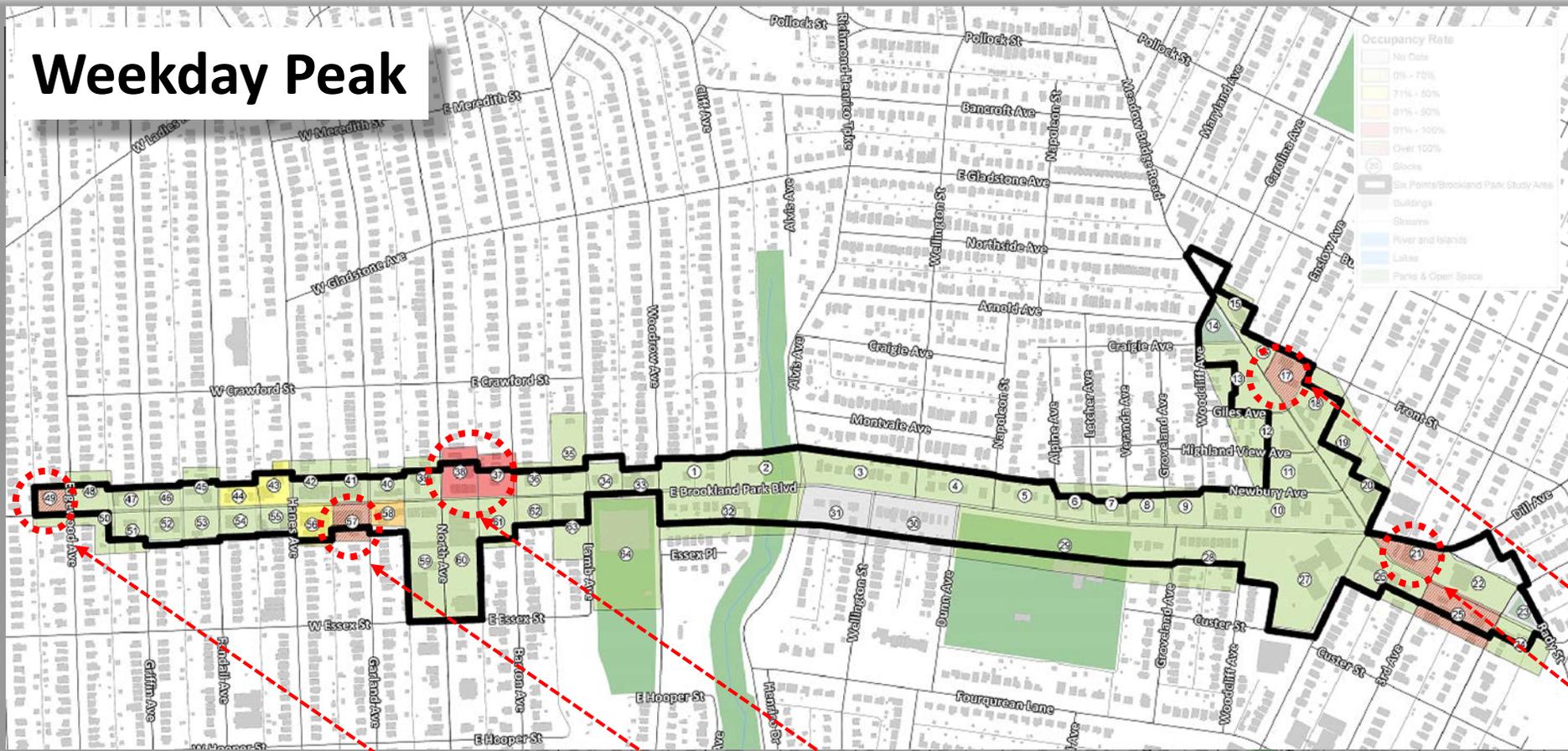
River and Islands

Lakes

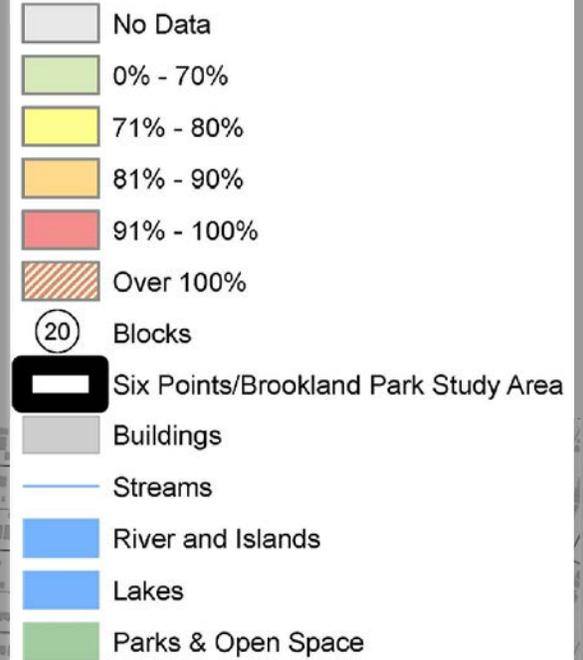
Parks & Open Space



Weekday Peak



Occupancy Rate



Weekend Peak



Preliminary Takeaways

- Public assets have additional capacity to support new or redevelopment in most areas
- Standardization of curbside stall dimensions would make utilization more efficient
- Large-scale conversion of other land uses into multi-unit housing could overwhelm existing supply
- Consistent challenges on Blocks:
 - 17 (Brown's Automotive Block)
 - 21 (Trim's Barber Shop/Chicken Box Block)
 - 37 (Barton Avenue & East Brookland Park Boulevard)
 - 38 (Northside Luncheonette/ Tyler Automotive Block)
 - 49 (Street Action Discount Auto Block)
 - 57 (Garland Avenue & East Brookland Park Boulevard)

Public Hearing (6/12/18 @ 6:30 PM)

- Approximately 20 attendees
- Stated concerns:
 - Communication regarding street cleaning schedules
 - Loss of curbside parking due to transit improvements
 - Curbside ADA parking space
 - Creation of new public off-street parking options
 - Pedestrian safety crossing the Six Points rotary
 - Parking requirements per zoning
 - Impacts of future growth in the area
 - Availability of parking at the Senior Housing Community

Initiatives Under Consideration

- Signage improvements/alternative media to communicate street cleaning and other parking/transportation initiatives
- Geometrics/impact of designating curbside stall dimensions and “no parking zones”
- Proposed regulations regarding provision of on-street ADA spaces
- Barriers to broader implementation of Shared Parking arrangements
- Feasibility and cost of improving pedestrian connections
- Regulation of curbside parking near area institutions
- Parking/roadway design as traffic calming measures
- Zoning/policy recommendations to support future development

Scott's Addition Study Area

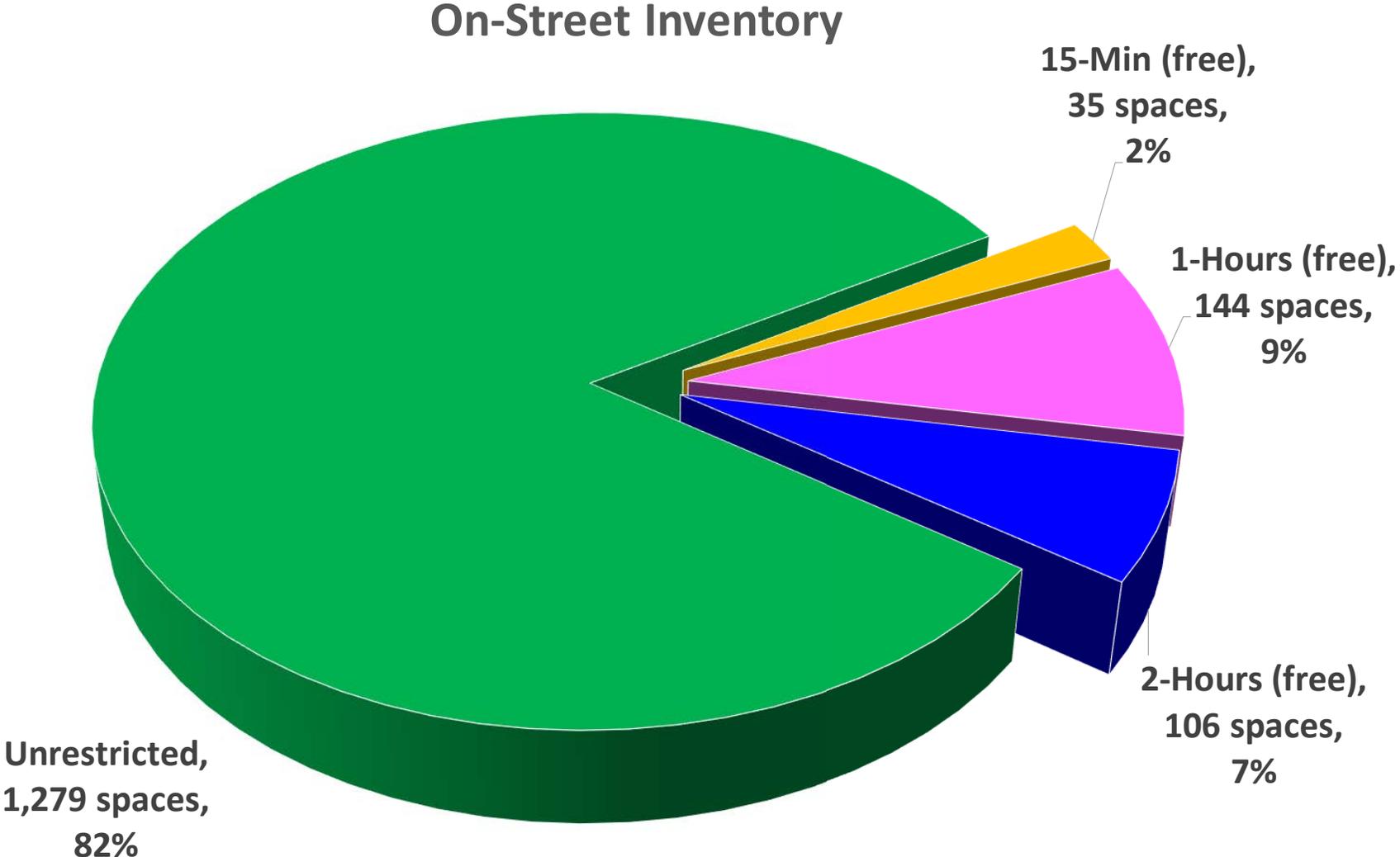
- 171 Acres
- 42 City Blocks
- 1,564 On-Street Spaces (29%)
- 3,783 Off-Street Spaces (71%)
- 5,374 Total Spaces



On-Street Parking Supply Inventory (March 2018)

35 15-Min (free)
144 1-Hr (free)
106 2-Hr (free)
1,279 Unrestricted
1,564 Total Spaces
(29% of Total Supply)

1,345 spaces in Effective Supply



Off-Street Parking Supply Inventory *(March 2018)*

- 155 facilities holding 3,783 spaces (71% of the spaces)
 - 20 lots and garages associated/designated as Residential (1,053 spaces)
 - 135 lots associated with businesses/institutions serving all users (2,730 spaces)
 - No facilities designated as serving Employees
- No Publicly-Owned Assets
- Included parking – where striped – in large truck marshalling/loading docks
- Calculated capacity in unstriped/improved lots by dividing area by 270 (SF/parking space)
- Did not include capacity of controlled access garages
- **Effective Parking Supply of 3,483 spaces**

Scott's Addition Off-Street Parking



Parking Occupancy Observations

Six observations:

Weekdays

- Wednesday, May 2, 2018: morning (8:00 – 10:00 AM)
- Wednesday, May 2, 2018: mid-day (11:00 AM – 2:00 PM)
- Wednesday, May 2, 2018: evening (5:00 PM – 7:00 PM)

Weekdays

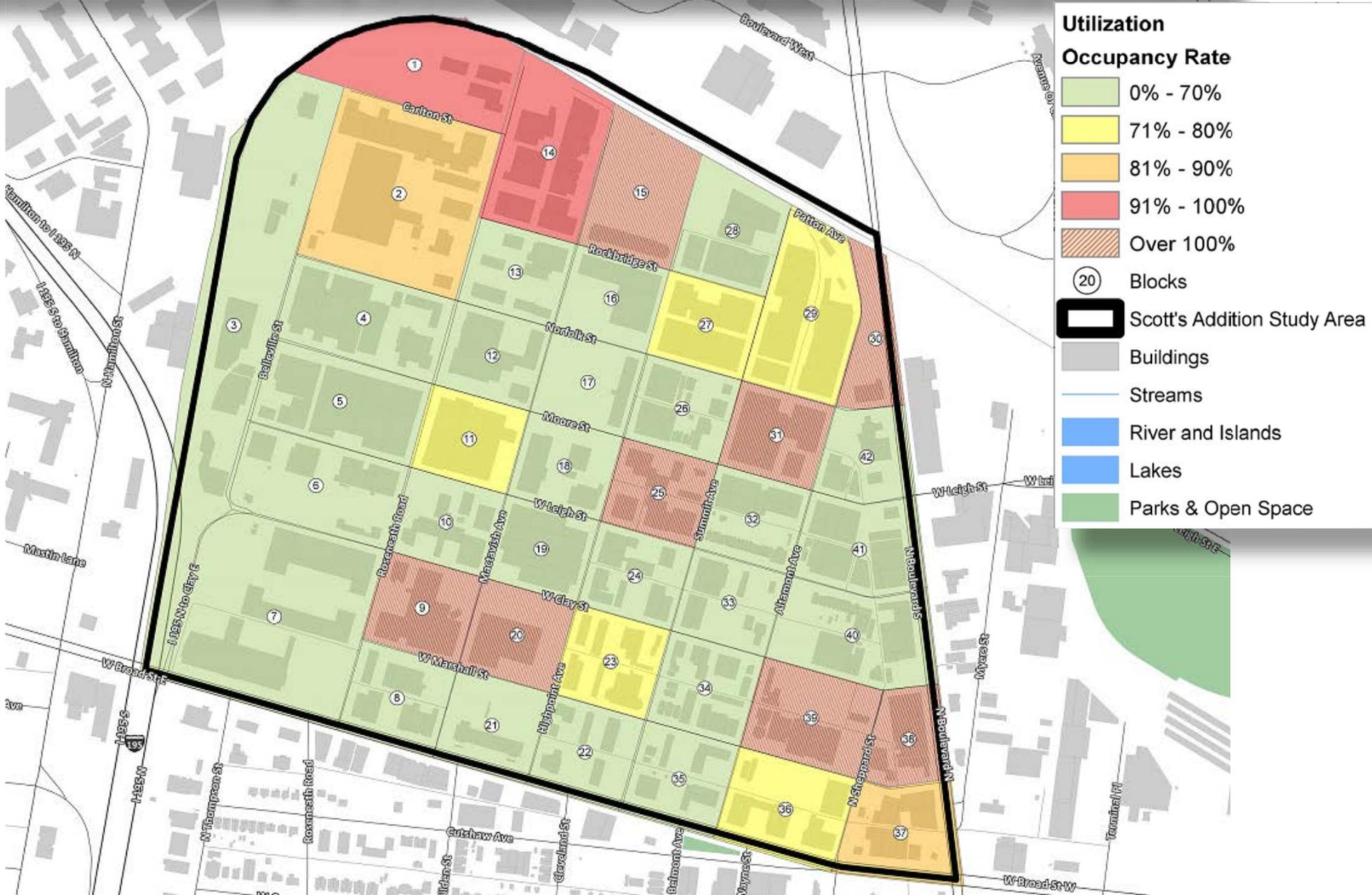
- Saturday, May 5, 2018: morning (8:00 – 10:00 AM)
- Saturday, May 5, 2018: mid-day (11:00 AM – 2:00 PM)
- Saturday, May 5, 2018: evening (5:00 PM – 7:00 PM)

Weekday Parking Occupancy Observations

(Wednesday, May 3, 2018)

- On-Street Occupancy
 - 65% in the morning (869 cars/ 1,354 spaces)
 - **82%** at mid-day (1,098 cars/ 1,354 spaces)
 - 67% in the evening (901 cars/ 1,354 spaces)
- Off-Street Occupancy
 - 40% in the morning (1,383 cars/3,483 spaces)
 - **48%** at mid-day (1,687 cars/ 3,483 spaces)
 - 36% in the evening (1,261 cars/3,483 spaces)
- Total Occupancy
 - 47% in the morning (2,552 cars/ 4,828 spaces)
 - **58%** at mid-day (2,785 cars/ 4,828 spaces)
 - 45% in the evening (2,162 cars/4,828 spaces)
- 10 Blocks operating at or over capacity

Utilization of Parking by Block (Wednesday, 5/2 Mid-Day Peak)

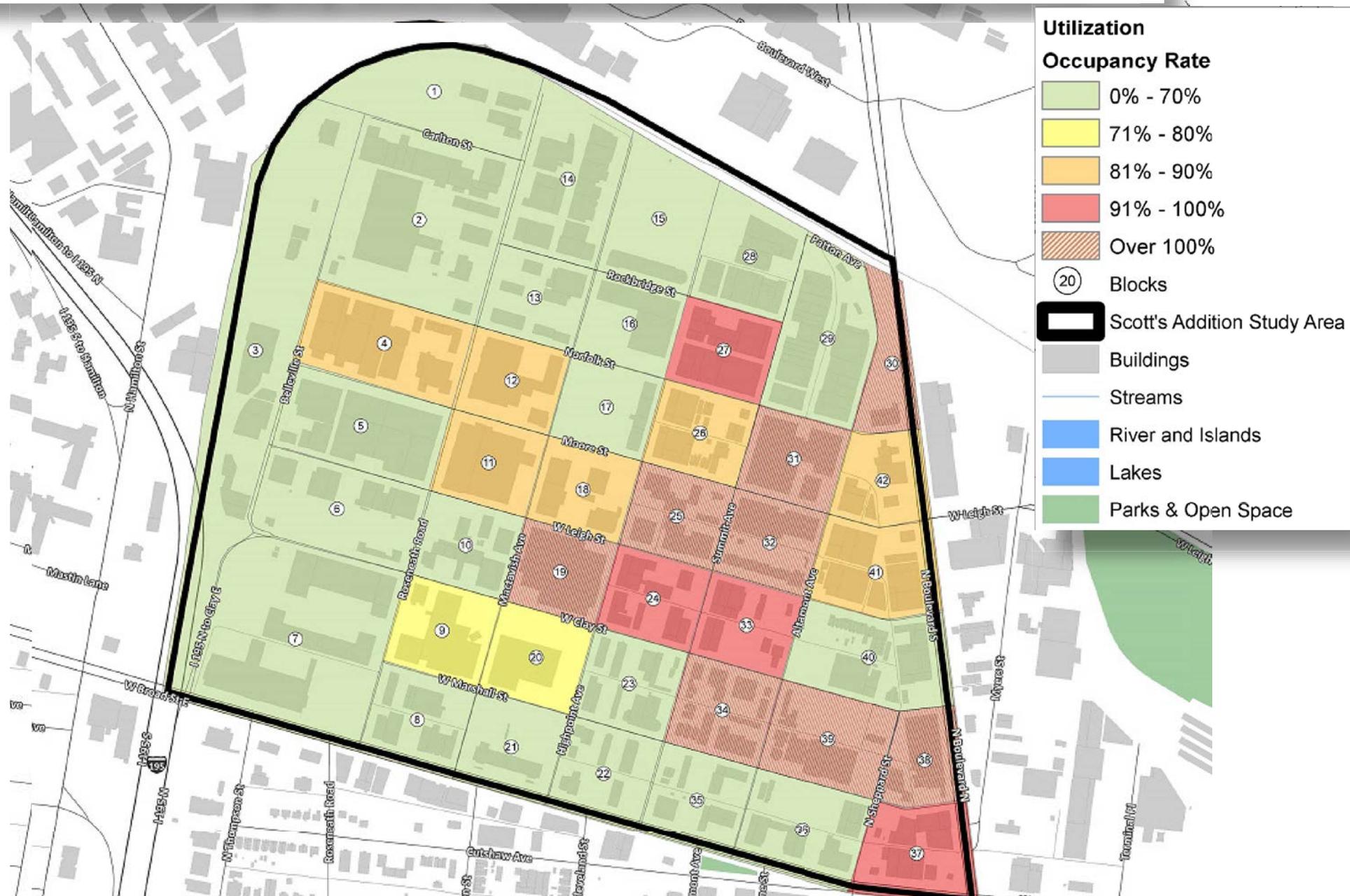


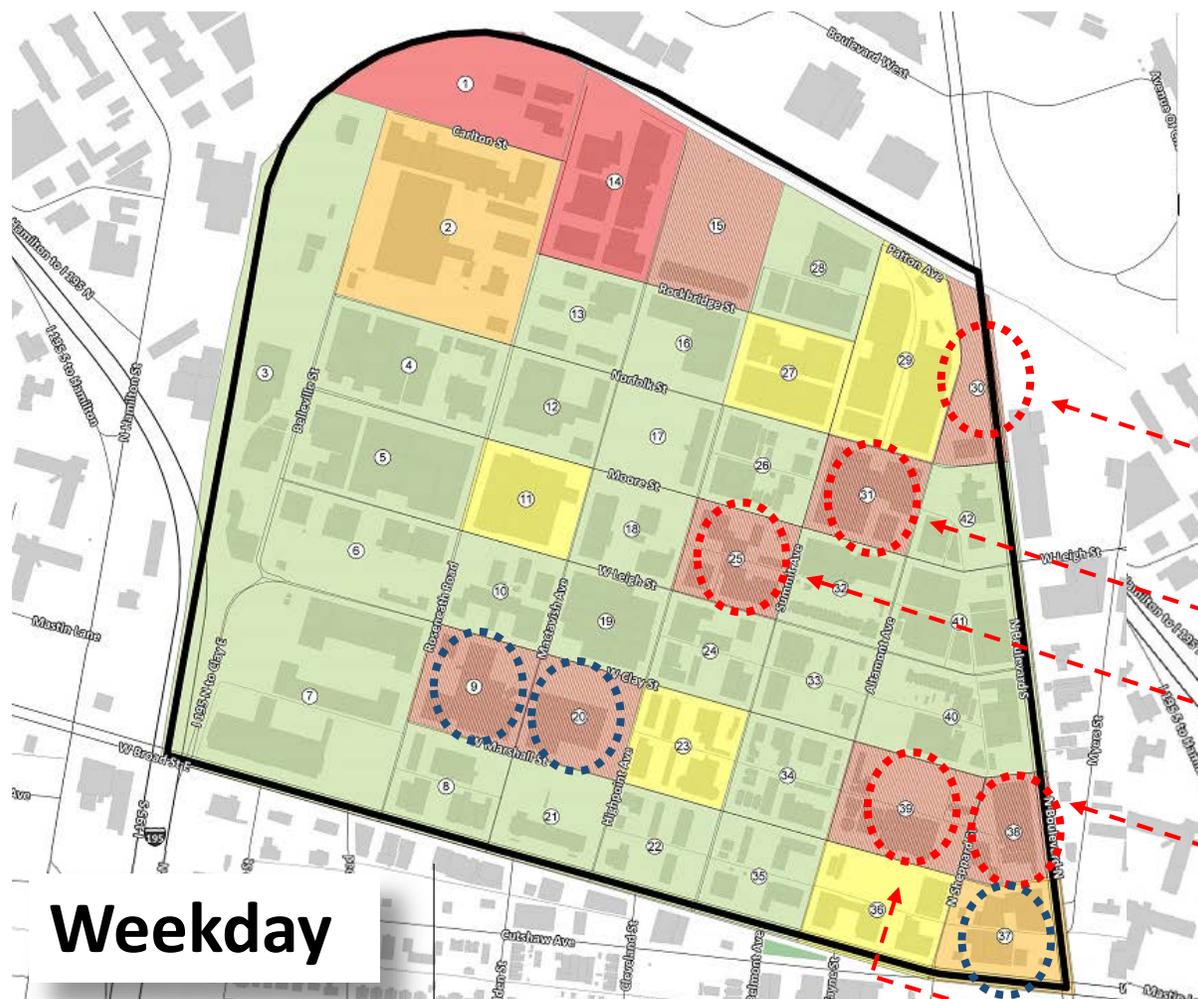
Weekend Parking Occupancy Observations

(Saturday, May 5, 2018)

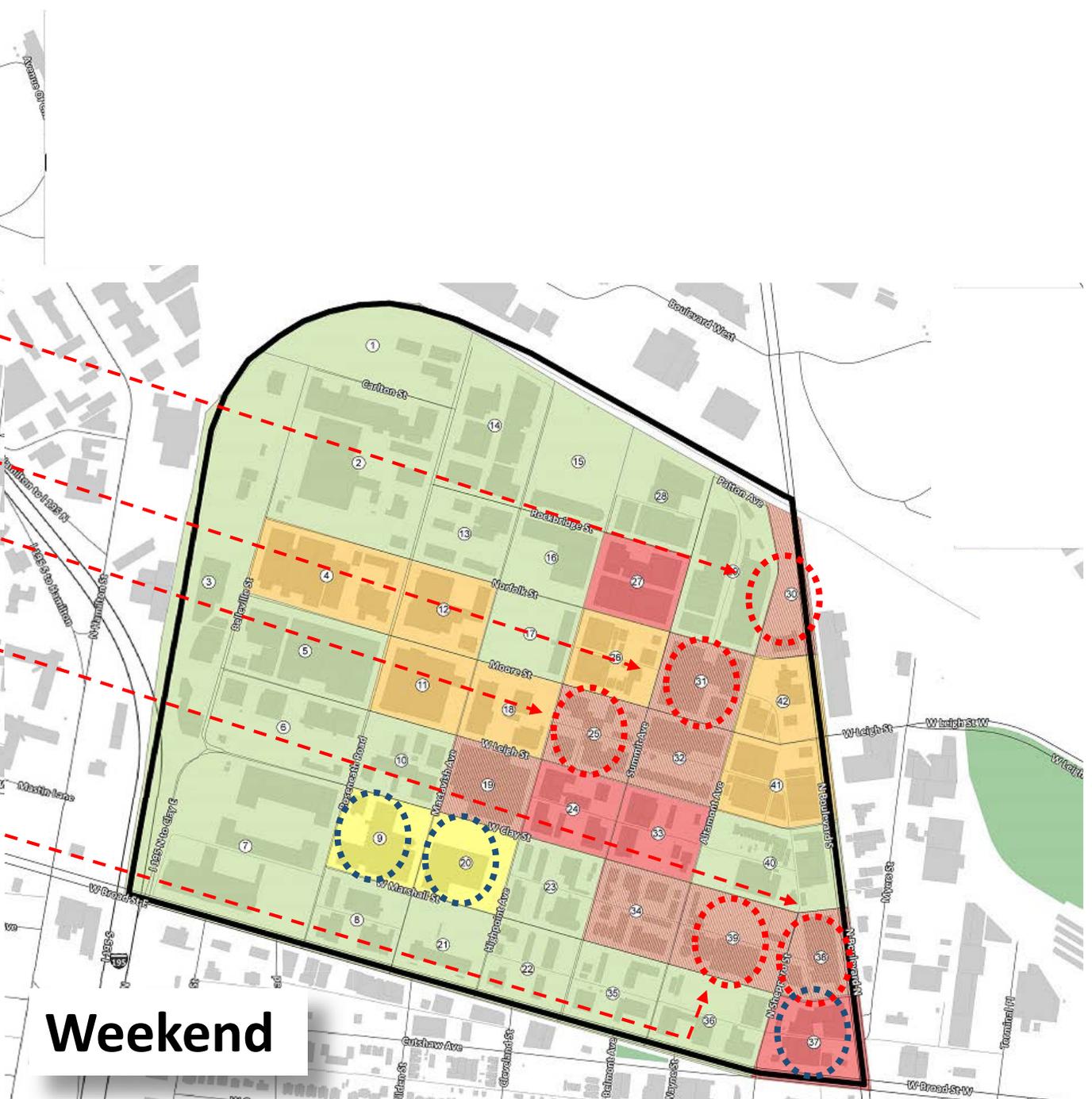
- On-Street Occupancy
 - 52% in the morning (705 cars/ 1,354 spaces)
 - 67% at mid-day (901 cars/ 1,354 spaces)
 - **116%** in the evening (1,558 cars/ 1,354 spaces) [1,564 total spaces in inventory]
- Off-Street Occupancy
 - 30% in the morning (1,057 cars/3,483 spaces)
 - 33% at mid-day (1,146 cars/ 3,483 spaces)
 - **35%** in the evening (1,210 cars/3,483 spaces)
- Total Occupancy
 - 36% in the morning (1,762 cars/ 4,828 spaces)
 - 42% at mid-day (2,047 cars/ 4,828 spaces)
 - **57%** in the evening (2,768 cars/4,828 spaces)
- 12 Blocks operating at or over capacity

Utilization of Parking by Block (Saturday, 5/5 Evening Peak)





Weekday



Weekend

Preliminary Takeaways

- Pedestrian accommodations across the area are sub-standard, causing localized shortfalls
- Stall definition and enforcement need to be examined
- Weekend draws extensive patronage from a wider geographic area, driving up on-street demand due to a lack of defined off-street options
- Industrial sites, office buildings offer potential for shared parking of off-street assets on nights and weekends
- Consistent challenges on Blocks:
 - 25 (TURN Studio Block)
 - 30 (Gelati Celesti Block)
 - 31 (Urban Farmhouse Block)
 - 38 (Purtian Cleaners Block)
 - 39 (Body Shop Block)

Public Hearing (6/13/18 @ 8:30 AM)

- Approximately 50 attendees
- Stated concerns:
 - Widespread incidents of curbside parking outside reasonable boundaries
 - Lack of parking enforcement
 - Curbside ADA parking and accessibility
 - Existing shared parking agreements (used for permitting) are not being employed/ monitored/ enforced
 - Lack of sidewalks and pedestrian crossings
 - Employee parking accommodations
 - Balance between commercial and residential parking interests

Initiatives Under Consideration

- Geometrics/impact of designating curbside stall dimensions and 'no parking zones'
- Methods/impacts for enhancing curbside parking enforcement
- Proposed regulations regarding provision of on-street ADA spaces
- Policies for monitoring/enforcing Shared Parking agreements (for zoning approvals)
- Barriers to broader implementation of Shared Parking arrangements
- Feasibility and cost of improving pedestrian connections
- Parking/roadway design as traffic calming measures
- Potential for parking permit programs for residents and employees
- Feasibility of establishing public off-street assets

Carytown Study Area

- 171 Acres
- 27 City Blocks
- 1,350 On-Street Spaces (37%)
- 2,308 Off-Street Spaces (63%)
- 3,658 Total Spaces

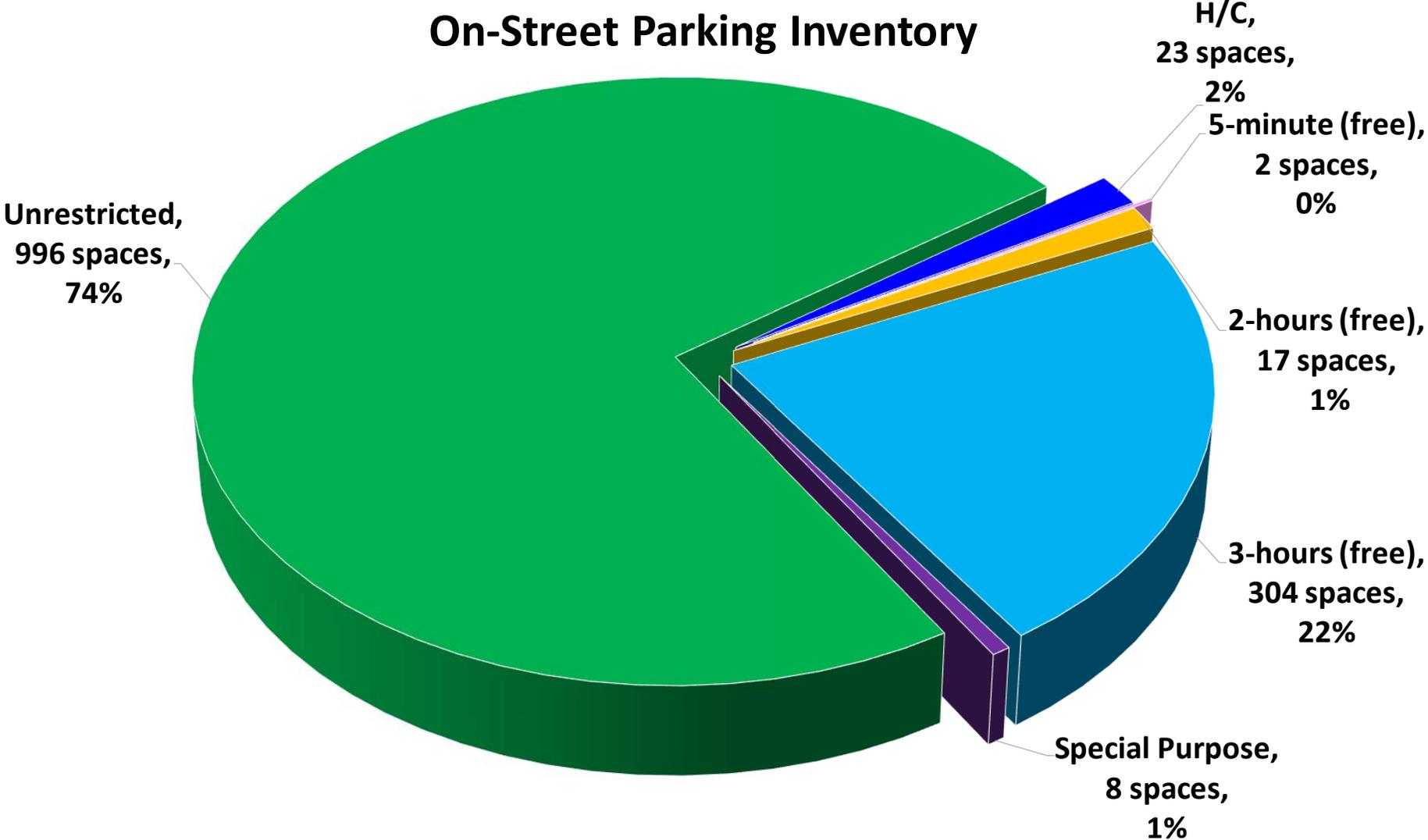


On-Street Parking Supply Inventory (March 2018)

- 2 5-Min (free)
- 8 Special Purpose
- 17 2-Hr (free)
- 23 HC Spaces
- 304 3-Hr (free)
- 996 Unrestricted

1,350 Total Spaces
(37% of Total Supply)

1,152 spaces in Effective Supply



Off-Street Parking Supply Inventory *(March 2018)*

- 85 facilities holding 2,308 spaces (63% of Total Supply)
- 81 Privately-Owned/Private Access Lots (2,103 spaces – 91%)
 - 14 lots associated/signed Residential (249 spaces)
 - 3 lots signed for Employees (44 spaces)
 - 64 lots designated Mixed-Use (1,807 spaces)
- 4 Publicly-Owned Assets (205 spaces – 9%)
 - 1 Publicly-Owned/Public Access Lot (34 spaces)
 - 2 Publicly-Owned/Public Access Garages (133 spaces)
 - 1 Publicly-Owned/Private Access Lot (38 spaces)
- **Effective Parking Supply of 2,174 spaces**

Carytown Off-Street Parking



ion Reference

Parking Occupancy Observations

Four observations:

Weekday

Thursday, May 3, 2018: mid-day (11:00 AM – 2:00 PM)

Thursday, May 3, 2018: evening (5:00 PM – 7:00 PM)

Weekend

Saturday, May 5, 2018: mid-day (11:00 AM – 2:00 PM)

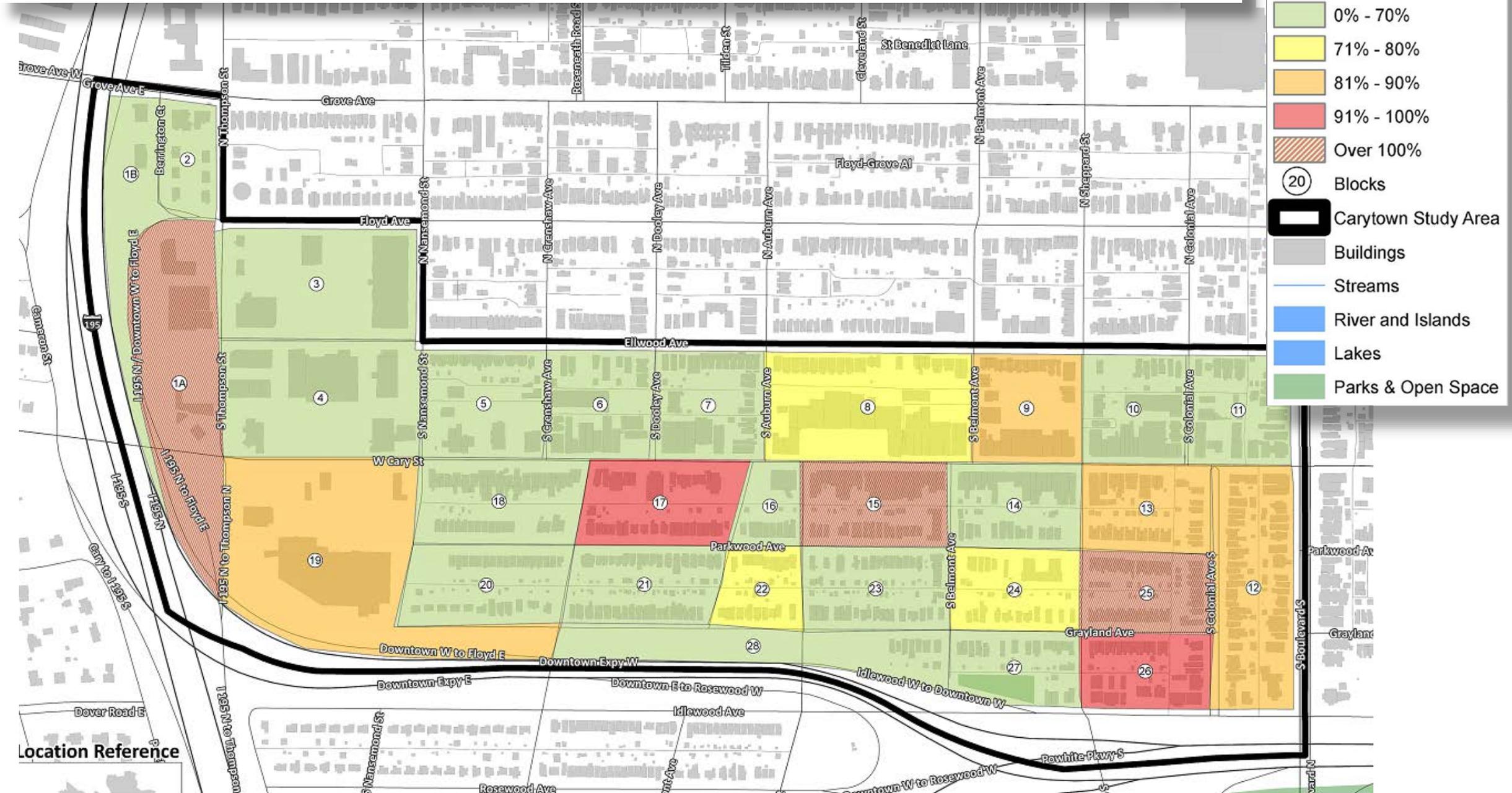
Saturday, May 5, 2018: evening (5:00 PM – 7:00 PM)

Weekday Parking Occupancy Observations (*Thursday, 5/3/18*)

- On-Street Occupancy
 - 72% at mid-day (831 cars/1,152 spaces)
 - **85%** in the evening (980 cars/1,152 spaces)
- Off-Street Occupancy
 - **64%** at mid-day (1,402 cars/2,174 spaces)
 - 55% in the evening (1,188 cars/2,174 spaces)
 - Dooley Avenue lot was highly utilized
 - *Colonial Avenue and Crenshaw Avenue Garages were not*
- Impacted blocks shifted to follow residential trends in the evening

Block #	Effective	Weekday, 11AM-2PM		Weekday, 5PM-7PM	
	Supply	Count	Utilization	Count	Utilization
1A	148	149	101%	100	67%
1B	80	24	30%	3	4%
2	55	29	53%	20	37%
3	317	212	67%	173	55%
4	356	153	43%	124	35%
5	149	82	55%	65	44%
6	153	106	69%	138	90%
7	133	83	62%	66	49%
8	280	212	76%	187	67%
9	147	131	89%	98	67%
10	133	54	40%	62	46%
11	116	52	45%	68	59%
12	90	74	82%	92	102%
13	59	52	88%	51	87%
14	96	63	66%	51	53%
15	66	67	102%	74	112%
16	40	21	52%	21	52%
17	112	102	91%	103	92%
18	109	75	69%	84	77%
19	247	217	88%	204	83%
20	88	33	37%	61	69%
21	67	34	51%	46	69%
22	36	27	76%	39	109%
23	53	32	61%	48	91%
24	50	37	75%	51	103%
25	41	43	105%	44	107%
26	43	40	93%	49	114%
27	45	25	55%	35	78%
28	17	4	24%	11	65%
TOTAL	3,326	2,233	67%	2,168	65%

Utilization of Parking by Block (Thursday, 5/13 Mid-Day Peak)

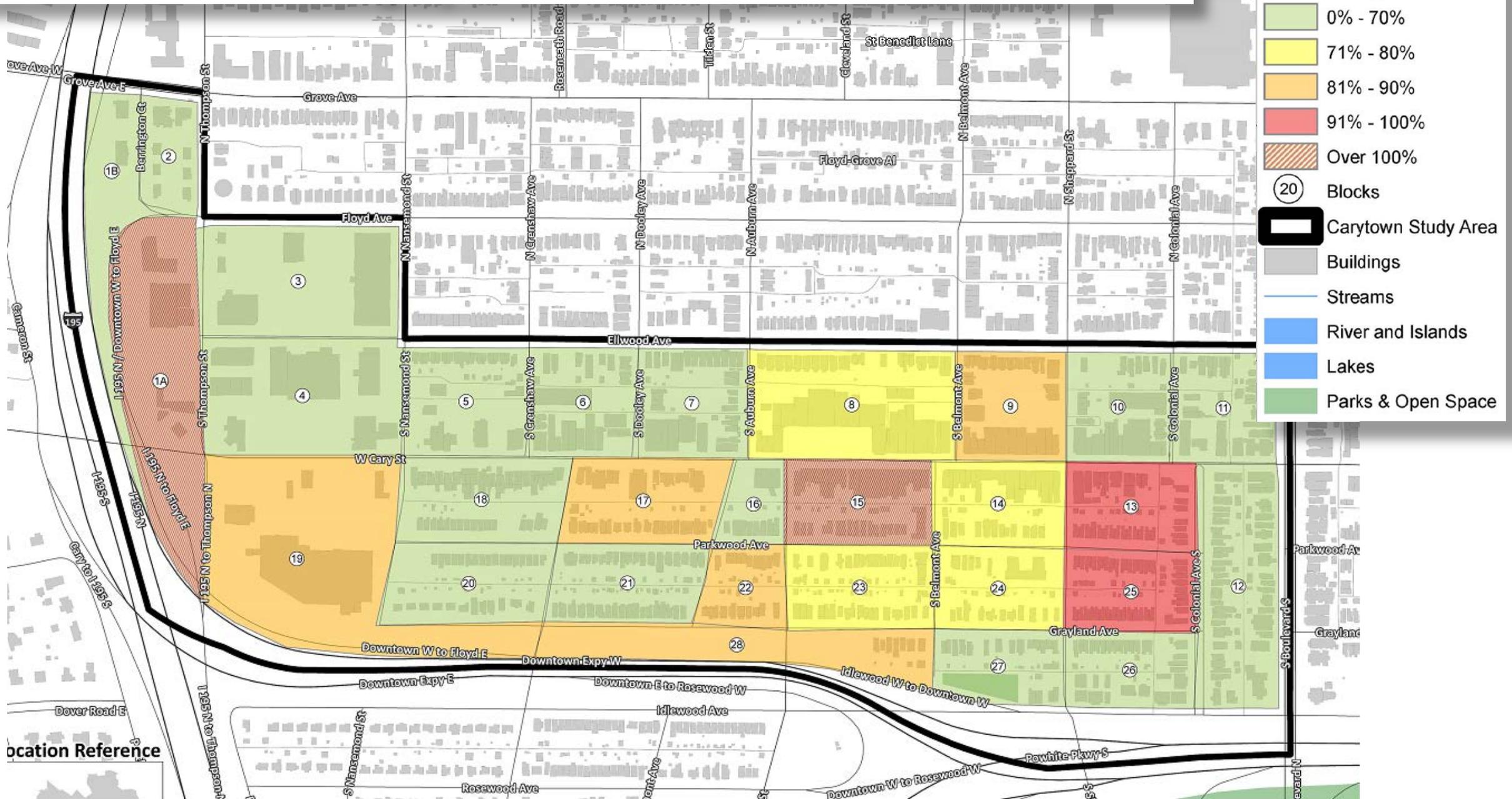


Weekend Parking Occupancy Observations (Saturday, 5/5/18)

- On-Street Occupancy
 - 74% at mid-day (855 cars/1,152 spaces)
 - **79%** in the evening (911 cars/1,152 spaces)
- Off-Street Occupancy
 - **64%** at mid-day (1,397 cars/2,174 spaces)
 - 53% in the evening (1,159 cars/2,174 spaces)
 - No change in utilization of Public Assets
- *Daytime peak is higher than weekday, evening less intense than weekday*
- Shortfalls cluster more around commercial districts

Block	Effective Supply	Saturday, 11AM-2PM		Saturday, 5PM-7PM	
		Count	Utilization	Count	Utilization
1A	148	148	100%	92	62%
1B	80	19	24%	0	0%
2	55	29	53%	3	5%
3	317	211	67%	144	45%
4	356	148	42%	94	26%
5	149	79	53%	49	33%
6	153	105	68%	99	65%
7	133	84	63%	72	54%
8	280	217	78%	222	79%
9	147	123	84%	121	82%
10	133	59	44%	75	56%
11	116	73	63%	84	73%
12	90	49	54%	51	56%
13	59	55	93%	56	95%
14	96	70	73%	66	69%
15	66	71	108%	93	141%
16	40	21	52%	22	55%
17	112	98	87%	83	74%
18	109	76	69%	76	69%
19	247	218	88%	228	92%
20	88	43	49%	44	50%
21	67	47	70%	56	84%
22	36	30	84%	38	106%
23	53	39	74%	45	85%
24	50	36	73%	37	75%
25	41	40	97%	42	102%
26	43	29	68%	38	89%
27	45	21	47%	24	53%
28	17	14	82%	16	94%
TOTAL	3,326	2,252	68%	2,070	62%

Utilization of Parking by Block (Saturday Mid-Day)



Preliminary Takeaways

- Residents largely dependent on curbside parking
- Maximizing curbside parking creates sightline issues, “over capacity” conditions
- Privately-held, off-street assets are underutilized in areas
- Public garages appear underutilized
- Consistent challenges on Blocks:
 - 1A (Ellwood Thompson)
 - 8 (Cary Court Park & Shop Block)
 - 9 (Mellow Mushroom Block)
 - 13 (Citizen’s Burger Bar Block)
 - 15 (sweetFrog Block)
 - 17 (7-Eleven Block)
 - 25 (Residential Block – Parkwood/Grayland/S. Sheppard/S. Colonial)

Public Hearing (6/13/18 @ 8:30 AM)

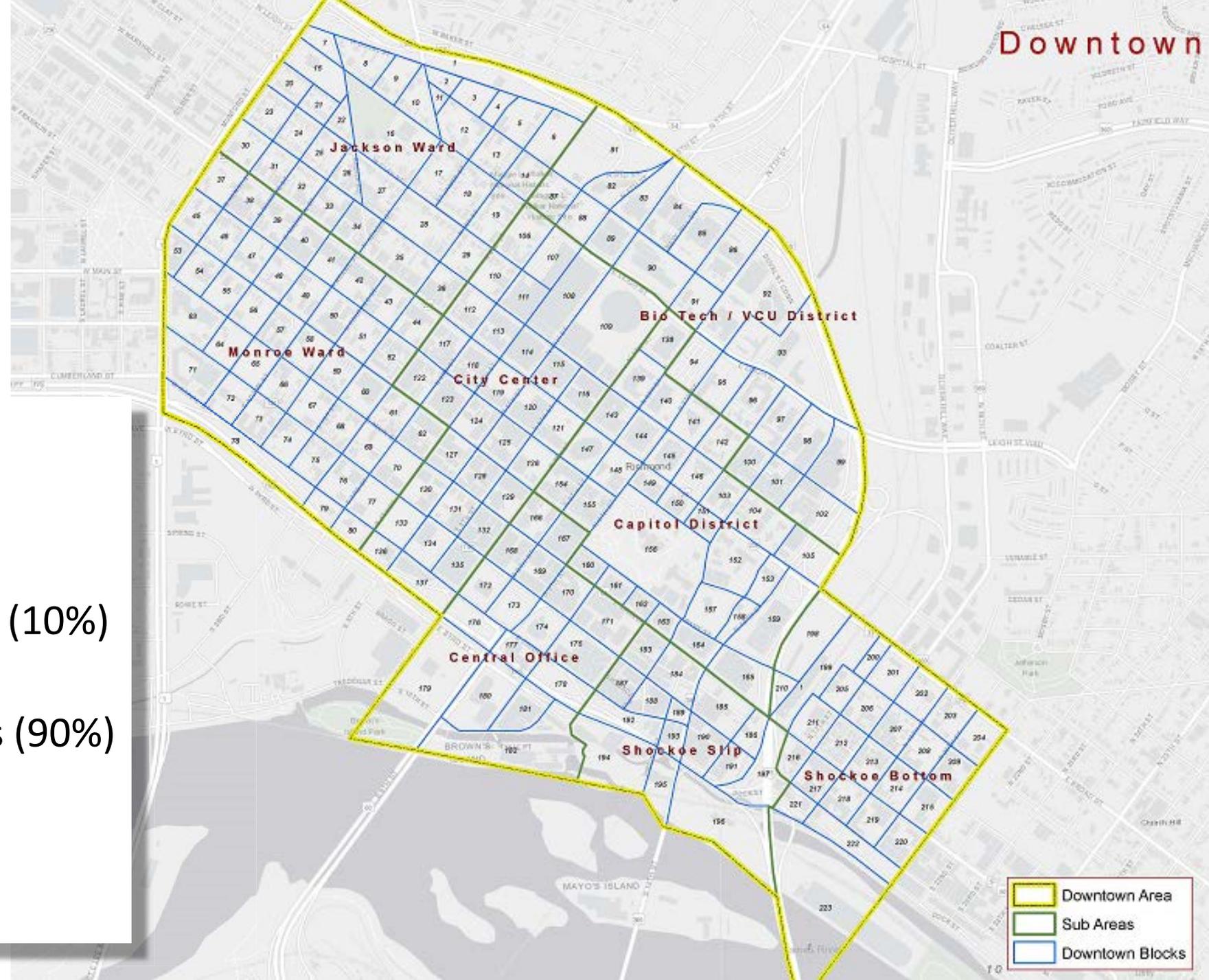
- Approximately 30 attendees
- Stated concerns:
 - Employee parking accommodations
 - Balance between commercial and residential parking interests
 - Parking accommodations for delivery and ride-hailing services
 - Curbside ADA parking and accessibility
 - Feasibility of Shared Parking agreements to support future development in the area
 - Integration with mobility issues
 - Public parking asset identification, utilization and wayfinding
 - Recommendations regarding time limits, pricing, etc.

Initiatives Under Consideration

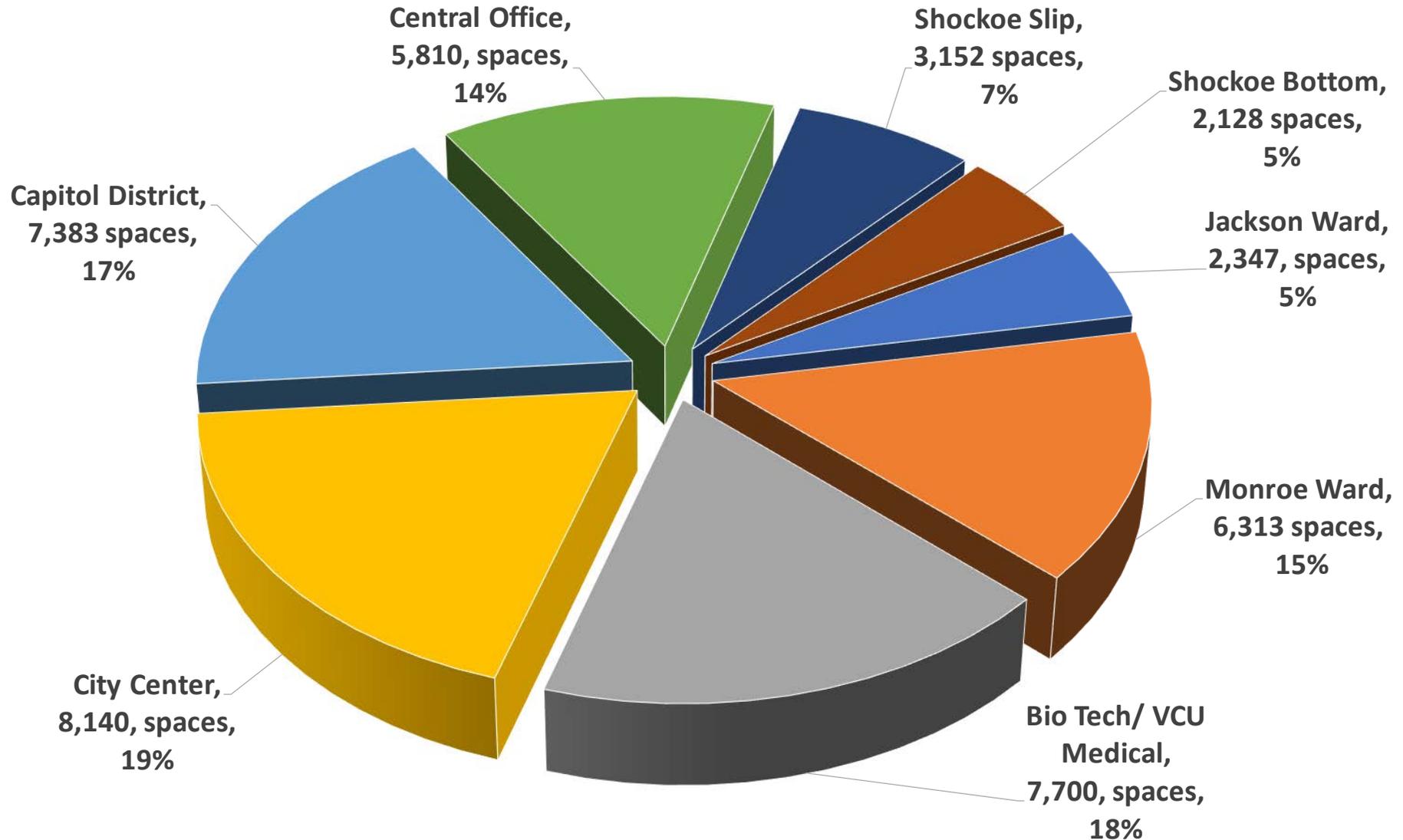
- Geometrics/impact of designating curbside stall dimensions and “no parking zones”
- Methods/impacts for enhancing curbside parking enforcement
- Proposed regulations regarding provision of on-street ADA spaces
- Policies for monitoring/enforcing Shared Parking agreements (for zoning approvals)
- Barriers to broader implementation of Shared Parking arrangements
- Potential for parking permit programs for residents and employees
- Feasibility of establishing public off-street assets
- Designation and management for “specialty” parking areas
- Parking as part of a larger mobility strategy

Downtown Study Area

- 735 Acres
- 223 City Blocks
- Eight sub-districts
- 4,433 On-Street Spaces (10%)
vs. 5,571 [2002] – 1,138
- 38,543 Off-Street Spaces (90%)
vs. 37,982 [2002] +561
- 42,973 Total Spaces
vs. 43,553 [2002] – 560

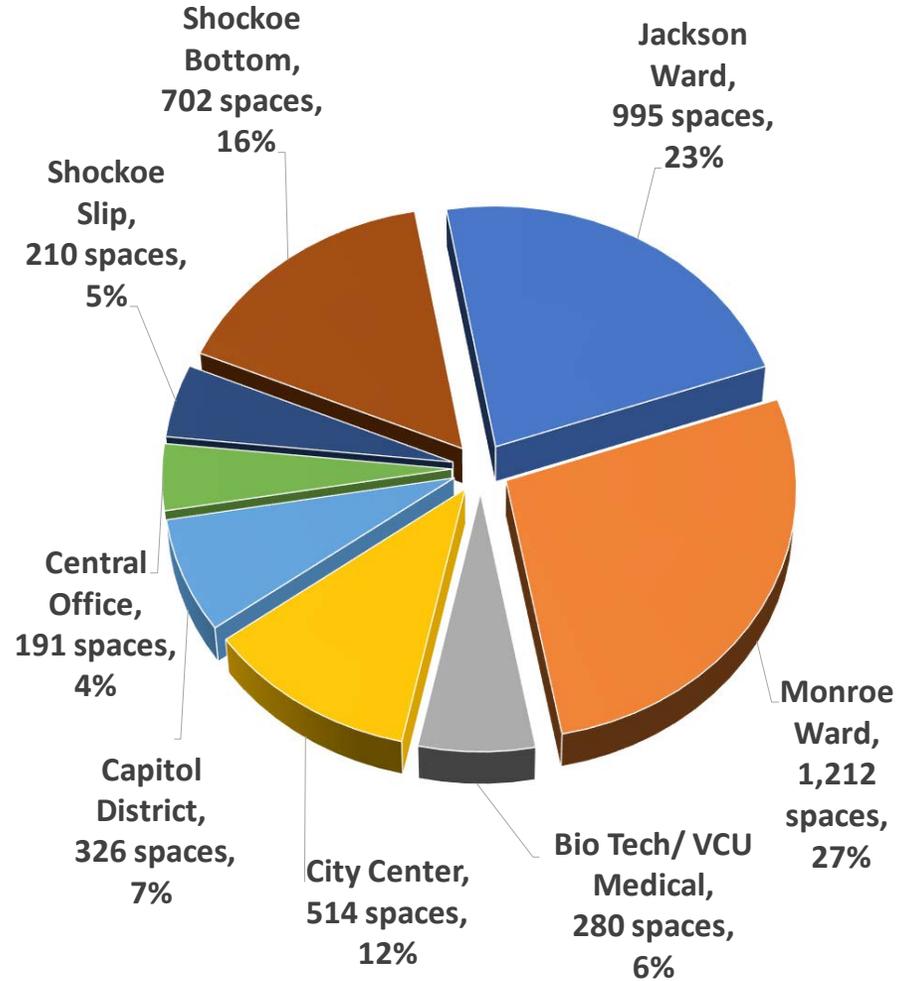


Total Distribution of Supply (42,973 spaces)

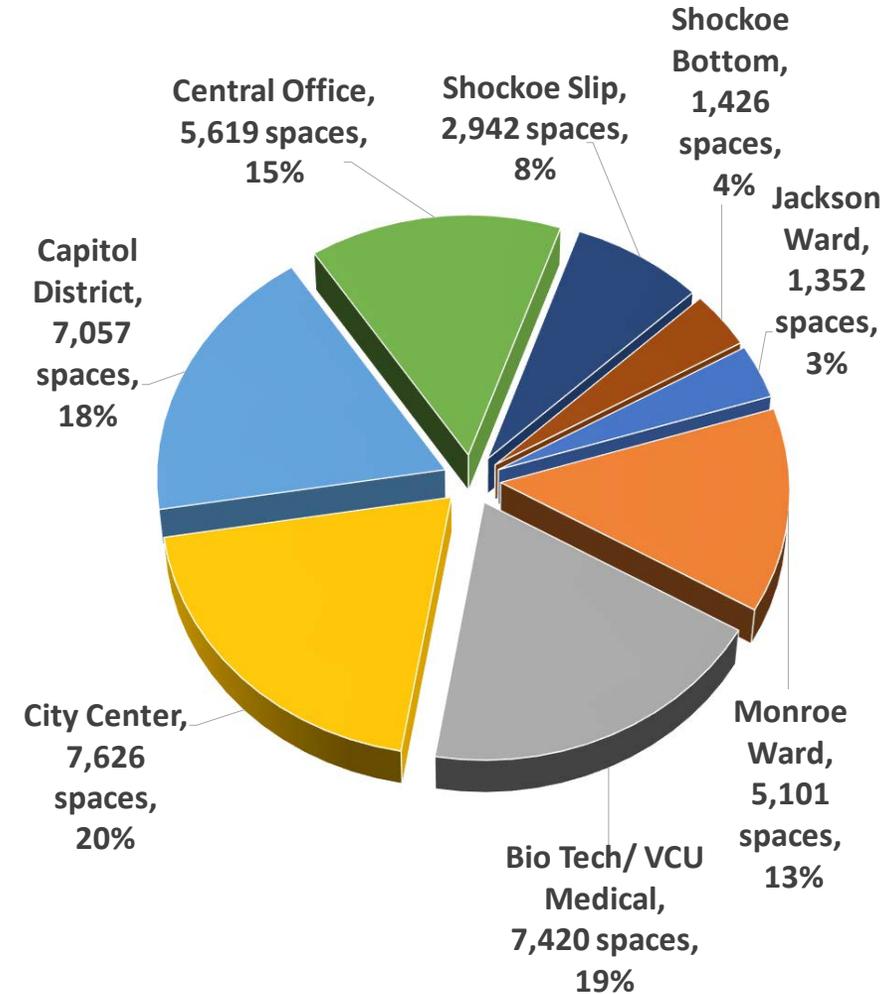


Distribution of Total Supply by Type

ON-STREET PARKING SUPPLY



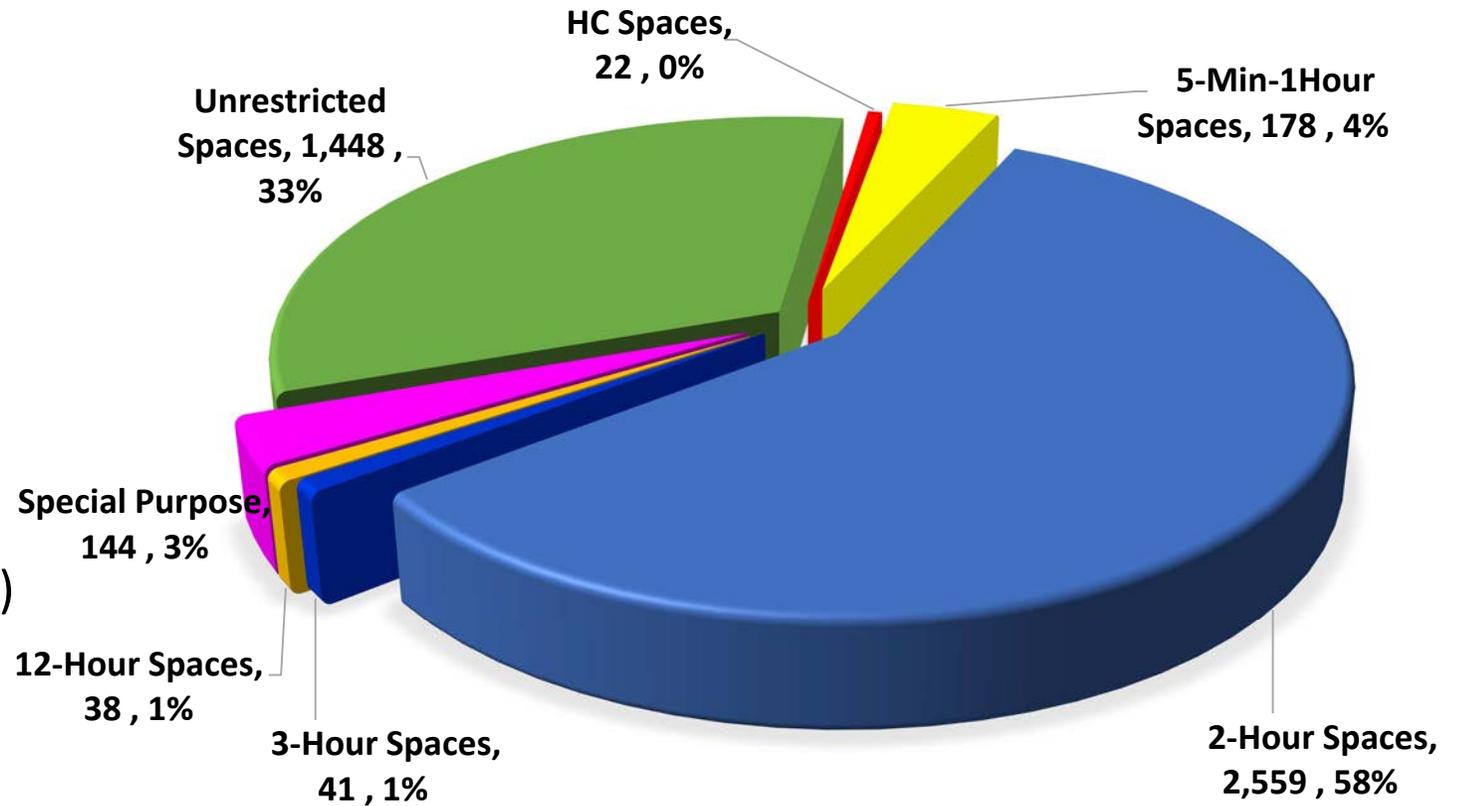
OFF-STREET PARKING SUPPLY



On-Street Parking Supply Inventory (March 2018)

Parking Regulations

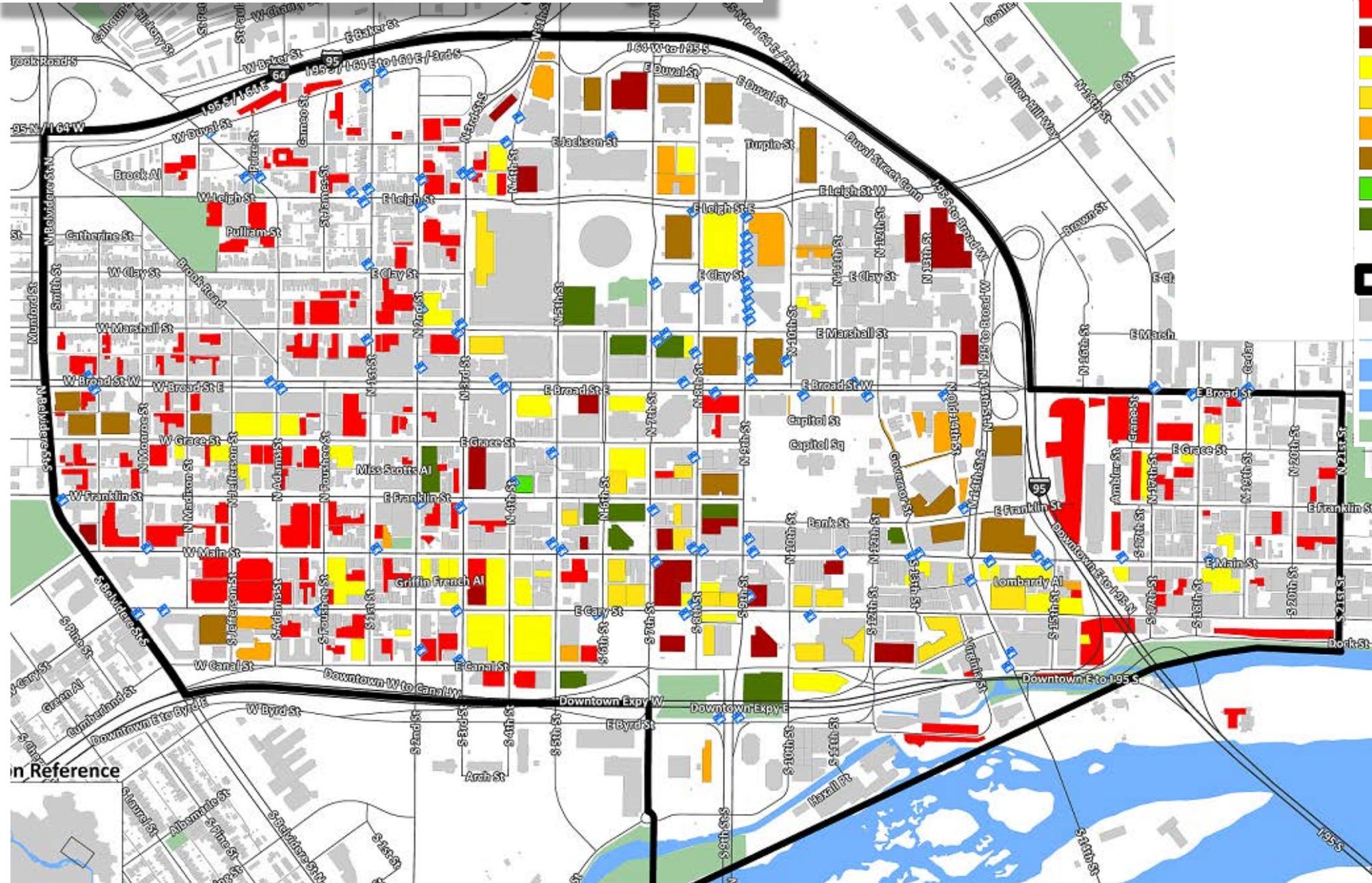
178	5-Min to 1-Hour Spaces
2,559	2-Hour Spaces
41	3-Hour Spaces
38	12-Hour Spaces
144	Special Purpose
1,448	Unrestricted Spaces
22	HC Spaces
4,330	Total Spaces (10% of Total Supply)
74%	<i>Free Spaces</i>
26%	<i>Pay Spaces</i>
3,801	Spaces in Effective Supply



Off-Street Parking Supply Inventory *(March 2018)*

- Four general categories: Private/Private, Private/Public, Public/Public, Public/Private
- 245 Private facilities holding 20,416 spaces (53% of the spaces)
 - 175 lots/garages/structures owned by private entities, open to the public (10,035 spaces)
 - 70 lots/garages/structures owned by private entities, with restricted access (10,381 spaces)
- 57 Public facilities holding 18,127 spaces (47% of the spaces)
 - 18 lots/garages/structures owned by public agencies, open to the public (7,089 spaces)
 - 38 lots/garages/structures owned by public agencies, with restricted access (11,038 spaces)
- **Effective Parking Supply of 36,083 spaces**

Downtown Off-Street Parking



Off-Street Parking

Type

- Privately Owned-Private Lot
- Privately Owned-Private Parking Garage
- Privately Owned-Public Lot
- Privately Owned-Public Parking Garage
- Publicly Owned-Private Lot
- Publicly Owned-Private Parking Garage
- Publicly Owned-Public Lot
- Publicly Owned-Public Parking Garage
- Bus Stops
- Downtown Study Area
- Buildings
- Streams
- River and Islands
- Lakes
- Parks & Open Space

in Reference

Parking Occupancy Observations

Four observations:

WEEKDAY

Thursday, May 3, 2018 : mid-day (11:00 AM – 2:00 PM)

Thursday, May 3, 2018 : evening (6:00 PM – 8:00 PM)

SATURDAY*

Saturday, May 5, 2018: mid-day (11:00 AM – 2:00 PM)

Saturday, May 5, 2018: evening (6:00 PM – 8:00 PM)

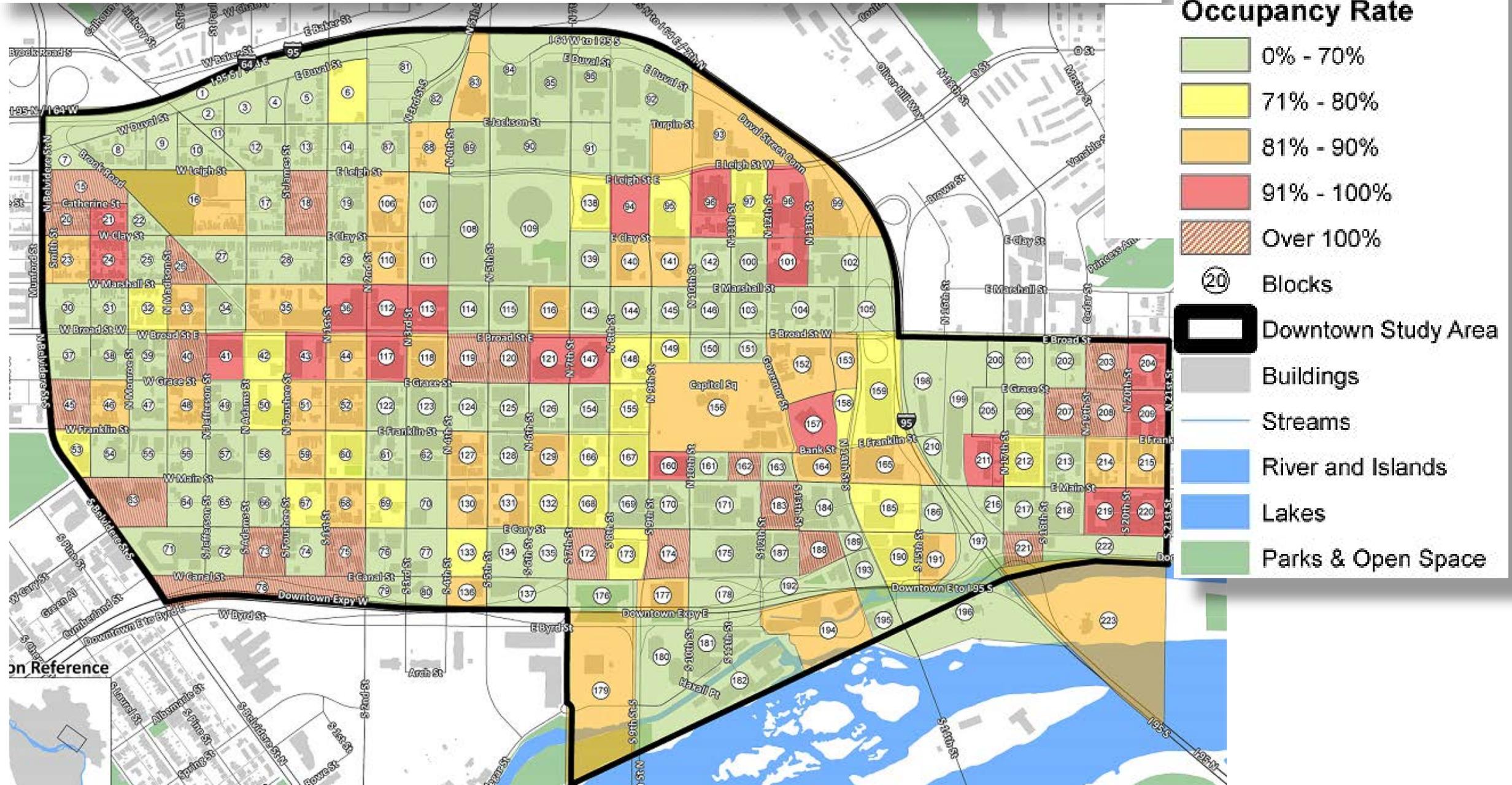
** Coincided with VCU graduation ceremonies occurring at the Coliseum/Convention Center*

Weekday Parking Occupancy Observations

(Thursday, May 3, 2018)

- On-Street Occupancy
 - **69%** at mid-day (3,058 cars/ 3,801 spaces) *vs. 72% [2002]*
 - 68% in the evening (3,011 cars/ 3,801 spaces)
- Off-Street Occupancy
 - **65%** at mid-day (23,595 cars/ 36,114 spaces) *vs. 72% [2002]*
 - 30% in the evening (10,704 cars/ 36,114 spaces)
- Total Occupancy
 - **67%** at mid-day (26,641 cars/ 39,915 spaces)
 - 34% in the evening (13,575 cars/ 39,915 spaces)
- 39 Blocks operating at or over capacity

Utilization of Parking by Block (Thursday, 5/3 Mid-Day Peak)



Weekend Parking Occupancy Observations

(Saturday, May 5, 2018)

- On-Street Occupancy
 - 92% at mid-day (3,481 cars/ 3,801 spaces)
 - **94%** in the evening (3,565 cars/ 3,801 spaces)
- Off-Street Occupancy
 - **29%** at mid-day (10,527 cars/ 36,114 spaces)
 - 26% in the evening (9,458 cars/ 36,114 spaces)
- Total Occupancy
 - **35%** at mid-day (14,008 cars/ 39,915 spaces)
 - 33% in the evening (13,023 cars/ 39,915 spaces)
- 34 Blocks operating at or over capacity

Preliminary Takeaways

- Large sections of downtown function as “employment centers” based on weekday versus weekend observations
- Significant clusters of high intensity use around institutional employers (VCU Medical, Commonwealth of Virginia) in the City Center, Bio Tech/VCU Medical, Capitol District, and Central Office areas on weekdays
- Consistent “pockets” of high demand on both weekdays and weekends in Jackson and Monroe Wards which are residents and/or high-intensity office use on weekdays paired with intense off-peak demand on nights/weekends
- Intensity of current development and demand for available space in the City Center will make supply-side solutions expensive in terms of cost and opportunity
- Intensity of demand and persistence within Shockoe Bottom suggests this area is reaching a crisis point

Shockoe Bottom Expansion Area



Public Hearing (6/14/18 @ 10:00 AM)

- Approximately 40 attendees
- Stated concerns:
 - Lack of parking requirements in Shockoe Bottom is bringing the area to a crisis point
 - Large number (1,100?) VCU Medical employees parking just outside the study area
 - Poor compliance/enforcement with on-street time restrictions
 - Provision of ADA parking spaces on city streets
 - Infill development is eliminating existing parking supply and not providing new spaces
 - Regulatory signage is either too abundant or non-existent
 - Communications regarding parking impacts have historically been poor
 - How does multi-modalism play into any potential solutions?

Initiatives Under Consideration

- Executing additional inventories and occupancy counts in Shockoe Bottom
- Inclusion of a future demand/impact scenario regarding off-site VCU Medical staff
- Evaluation and revision of current on-street time limits/enforcement efforts
- Influencing parking behaviors through pricing incentives/wider metering
- Barriers to broader implementation of Shared Parking arrangements, especially in publicly-owned, privately-accessible parking facilities
- Feasibility/impact of revising downtown parking requirements
- Feasibility of developing off-street parking assets in key areas
- Residential parking permits for Jackson/Monroe Wards
- Administration of on-street ADA parking installations
- Revision of regulatory signage
- Options for broader dissemination of parking/transportation information

Manchester Study Area

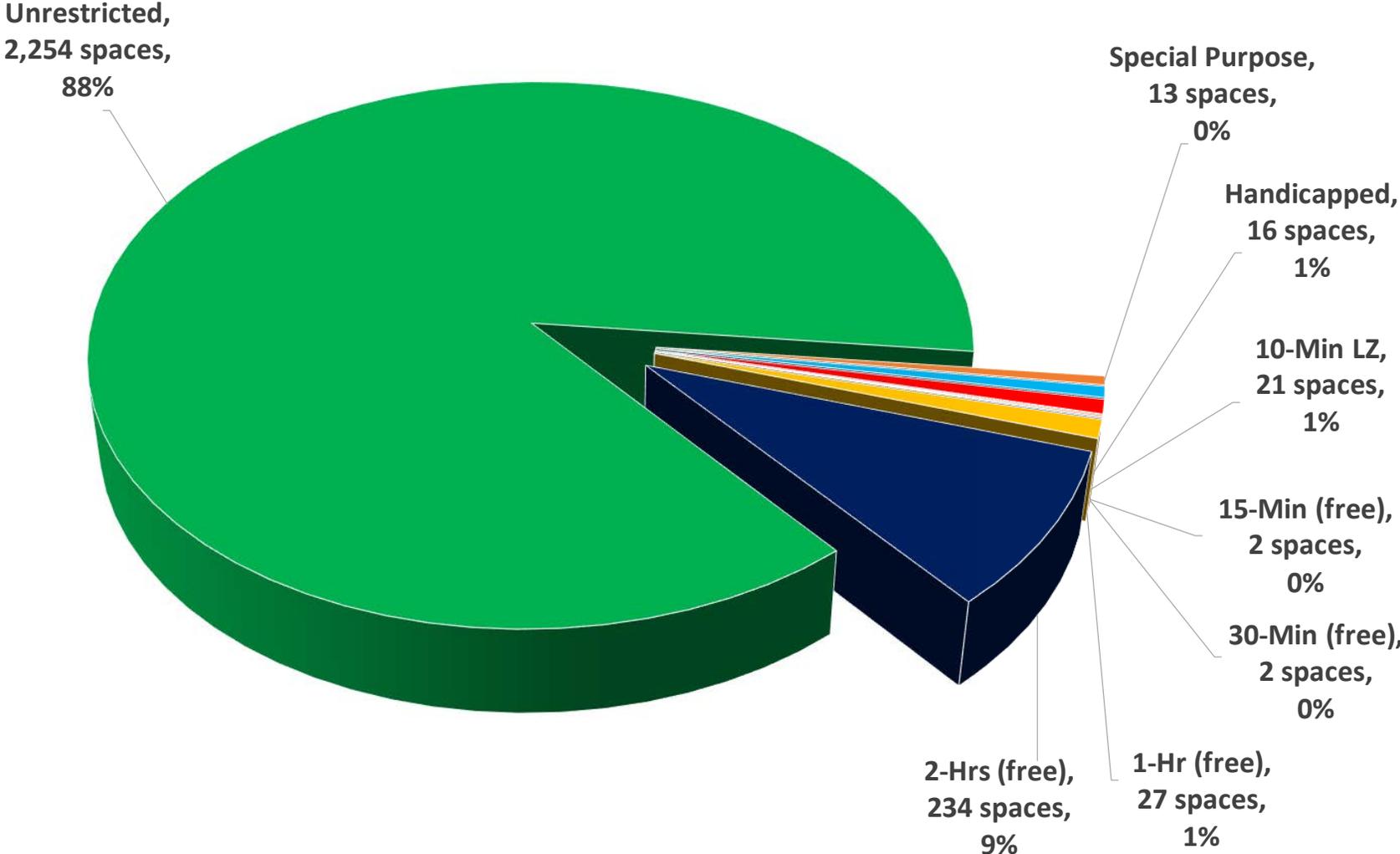
- 346 Acres
- 104 City Blocks
- 2,569 On-Street Spaces (33%)
- 5,291 Off-Street Spaces (67%)
- 7,860 Total Spaces



On-Street Parking Supply Inventory (March 2018)

On-Street Inventory

- 21 10-Min LZ
- 2 15-Min (free)
- 2 30-Min (free)
- 27 1-Hr (free)
- 234 2-Hr (free)
- 13 Special Purpose
- 16 Handicapped
- 2,254 Unrestricted
- 2,569 Total Spaces**
(33% of Total Supply)
- 2,197 spaces in Effective Supply**



Off-Street Parking Supply Inventory *(March 2018)*

- Four general categories: Private/Private, Private/Public, Public/Public, Public/Private
- 143 private facilities holding 5,131 spaces (97% of the spaces)
 - 49 lots and garages associated/designated as Residential (1,647 spaces)
 - 70 'Mixed Use' lots associated with businesses/institutions serving all users (2,020 spaces)
 - 23 lots designated for Employees (1,337 spaces)
 - 1 lot owned by private parties, open to the public (127 spaces)
 - Four garages (Terraces at Manchester, City View Apartments, UPS Freight, and Manchester Market) not surveyed or included in occupancy counts due to access.
- 6 public facilities holding 160 spaces (3% of the spaces)
 - 2 lots owned by public agencies, open to the public (34 spaces)
 - 4 lots owned by public agencies, with restricted access (126 spaces) – Library and Courthouse
- **Effective Parking Supply of 4,399 spaces**

Parking Occupancy Observations

Five observations:

WEEKDAY

Thursday, May 3, 2018: morning (8:00 AM – 10:00 AM)

Thursday, May 3, 2018: mid-day (11:00 AM – 2:00 PM)

Thursday, May 3, 2018: evening (5:00 PM – 7:00 PM)

WEEKEND

Saturday, April 28, 2018: mid-day (11:00 AM – 2:00 PM)

Saturday, April 28, 2018: evening (5:00 PM – 7:00 PM)

Weekday Parking Occupancy Observations

(Thursday, May 3, 2018)

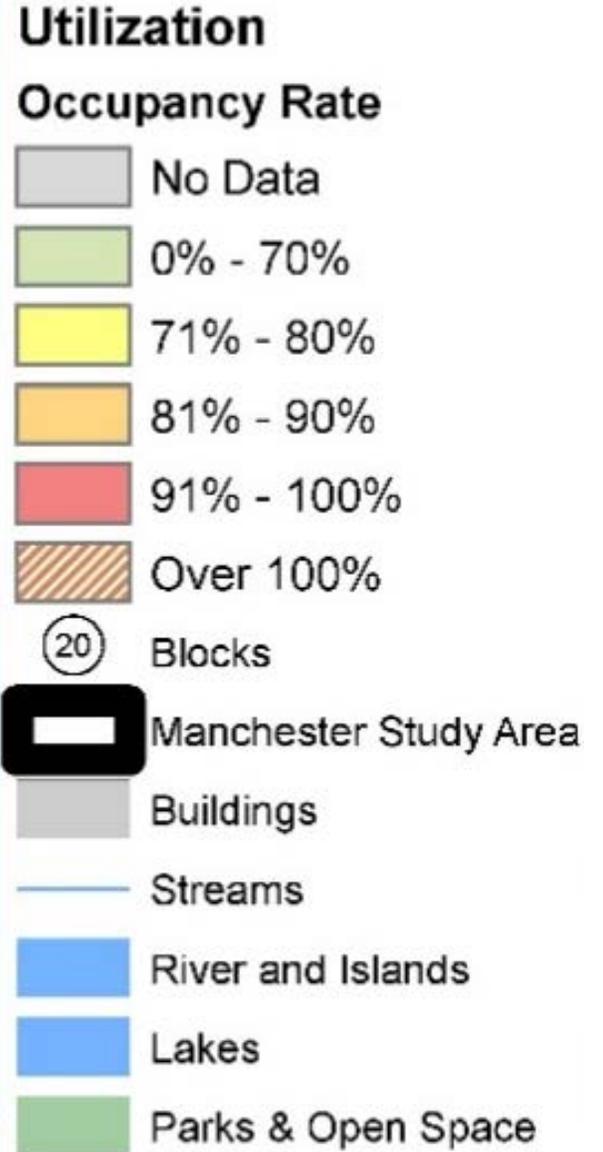
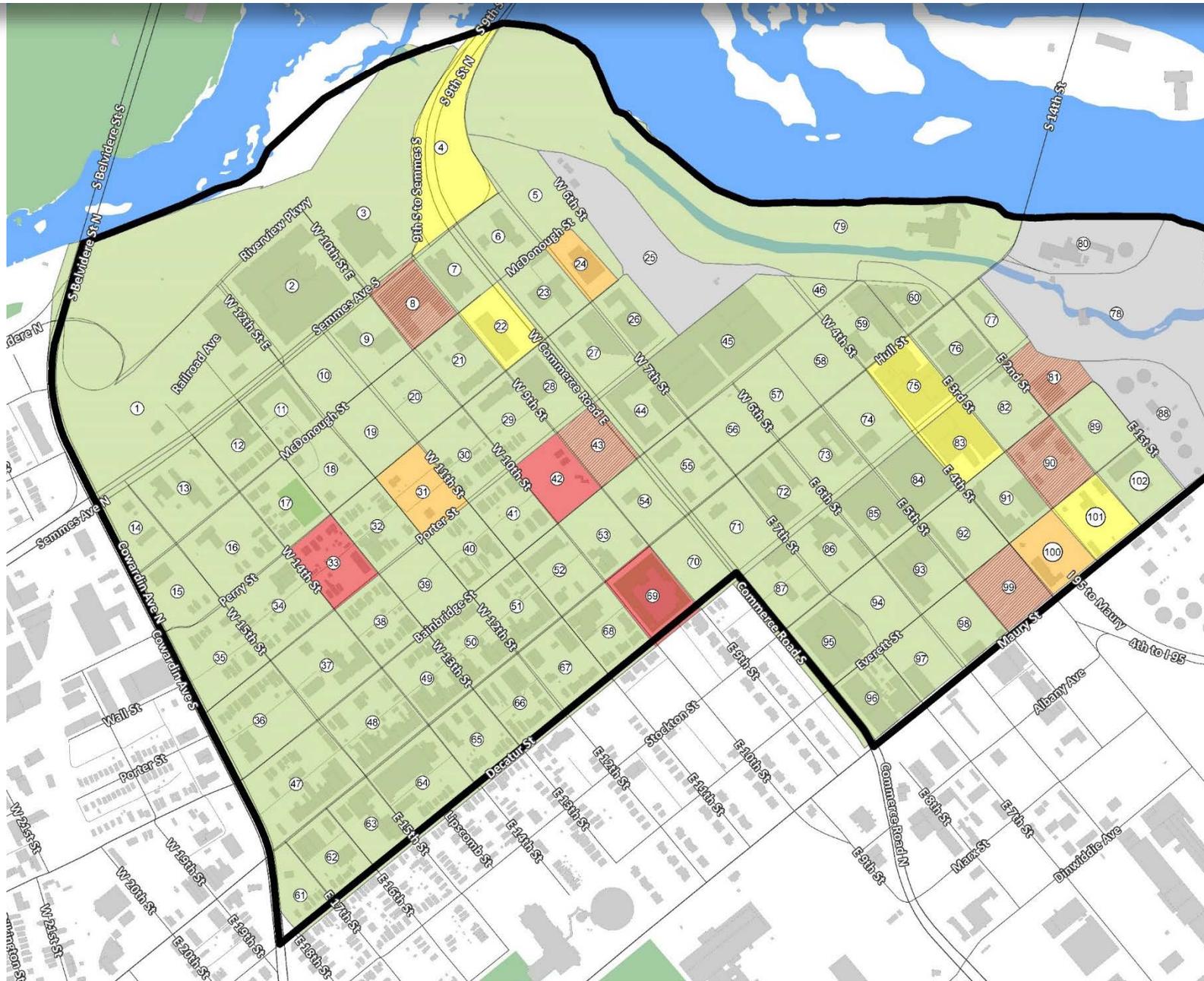
- On-Street Occupancy
 - **53%** in the morning (1,161 cars/ 2,197 spaces)
 - 50% at mid-day (1,088 cars/ 2,197 spaces)
 - 50% in the evening (1,105 cars/ 2,197 spaces)
- Off-Street Occupancy
 - 44% in the morning (1,945 cars/ 4,399 spaces)
 - **47%** at mid-day (2,056 cars/ 4,399 spaces)
 - 31% in the evening (1,351 cars/ 4,399 spaces)
- Total Occupancy
 - 47% in the morning (3,106 cars/ 6,596 spaces)
 - **48%** at mid-day (3,144 cars/ 6,596 spaces)
 - 37% in the evening (2,456 cars/ 6,596 spaces)
- 8 Blocks operating at or over capacity

Weekend Parking Occupancy Observations

(Saturday, April 28, 2018)

- On-Street Occupancy
 - 57% at mid-day (1,257 cars/ 2,197 spaces)
 - **58%** in the evening (1,277 cars/ 2,197 spaces)
- Off-Street Occupancy
 - **27%** at mid-day (1,185 cars/ 4,399 spaces)
 - 26% in the evening (1,132 cars/ 4,399 spaces)
- Total Occupancy
 - **37%** at mid-day (2,442 cars/ 6,596 spaces)
 - 37% in the evening (2,409 cars/ 6,596 spaces)
- 8 Blocks operating at or over capacity

Utilization of Parking by Block (Saturday, April 28 – Mid-Day)



Preliminary Takeaways

- Demand in the Semmes Avenue Corridor (West 13th Street to Commerce Avenue) is spilling over onto public streets on adjacent blocks during weekdays
- Redevelopment and commerce in the district between Semmes Avenue, Bainbridge Street, Commerce Avenue and the train tracks is creating tight conditions on weekdays
- Some “hotspots” are just successful projects that take up the whole block, creating demand without providing supply on site (Plant Zero, Hopper Lofts, etc.)
- Now is the time to start pro-actively setting policies and putting measures in place to support continuing development and reinvention
- Creating “reservoirs” of parking could create more development synergy through out the district

Public Hearing (6/13/18 @ 8:30 AM)

- Approximately 15 attendees
- Stated concerns:
 - Zoning requirements for parking (ala Hull Street Corridor)
 - Special (Riverside) event parking management
 - Lack of on-street stall designation, set-backs from intersections and curb cuts, etc.
 - Balance between commercial and residential parking interests
 - Curbside ADA parking and accessibility
 - Feasibility of Shared Parking agreements to support future development in the area
 - Integration with mobility initiatives
 - Options for limiting length of stay and/or creating turnover

Initiatives Under Consideration

- Revision of current zoning codes
- Development of special event management protocols
- Geometrics/impact of designating curbside stall dimensions and “no parking zones”
- Methods/impacts for enhancing curbside parking enforcement
- Proposed regulations regarding provision of on-street ADA spaces
- Barriers to broader implementation of Shared Parking arrangements
- Potential for parking permit programs for residents and employees
- Feasibility of establishing public off-street assets
- Parking as part of a larger mobility strategy