



# Appendices





# APPENDICES

## APPENDIX A - Sample Inventory Form

### Alexandria Play Assessment

MapBook Label \_\_\_\_\_ Date \_\_\_\_\_ Auditor \_\_\_\_\_

#### Open Access

- 3 Open to the General Public on walk-in basis
- 2 Open to General Public but requires registration, enrollment, or other action first
- 1 Open only to a limited group on basis of residence, membership, etc.

Comments:

#### Invitation

- 3 Easy to find and welcoming
- 2 Somewhat hidden or discreet
- 1 Hard to find unless you know it is there

Comments:

#### Ease of Access

- 3 Easy to reach by both automobile and public transportation (also assumes easy to walk to)
- 2 Easily reached by either auto or public transportation, but not by both
- 1 Difficult to reach by all means except walking (i.e. no parking and far from transit)

Comments:

#### Safe Location

- 3 Surrounding area feels safe at normal hours for play
- 2 Surrounding area may cause unsafe feelings for some people
- 1 Surrounding area is generally thought of as unsafe

Comments:

#### Pleasant Conditions and Surroundings

- 3 Play area and surroundings are clean, attractive, and appealing
- 2 Play area and surroundings function but could be more appealing in some way
- 1 Play area and surroundings are run-down, poorly maintained, or unappealing

Comments:

#### Monitoring

- 3 Play location has monitors and/or staff during normal hours for play
- 2 Play location has "friendly eyes" during most of the hours of play
- 1 Play location has few or no people other than users present during normal hours of play

Comments:

#### Programming

- 3 Play location has people who facilitate play during normal hours for play
- 2 Play location occasionally has people who facilitate play
- 1 Play location has no programmed play

Comments:

#### Weather Protection

- 3 Play location has good protection from rain, wind, sun, etc. during normal hours for play
- 2 Play location has some protection from the elements during normal hours of play
- 1 Play location lacks reasonable protection from the elements

Comments:

#### Seating

- 3 Play location has adequate amount of comfortable seating for caregivers during play
- 2 Play location has some seating for caregivers, but it is inadequate in some way
- 1 Play location lacks reasonable seating for caregivers

#### Restrooms

- 3 Need for restrooms is adequately met at this play location
- 2 Restrooms are available but inadequate in some way
- 1 Restrooms are not available at this location





Comments:

Drinking Water

- |   |  |
|---|--|
| 3 | Drinking water is readily available  |
| 2 | Drinking water is available on a limited basis or may be too far away, or otherwise inadequate |
| 1 | Drinking water is not available at this location   |

Comments:

Physical Domain

- |   |  |
|---|--|
| 3 | Play space offers a full range of activities that engage all types of motions and vestibular stimulation |
| 2 | Play space offers a range of activities but is limited in some way                                       |
| 1 | Play space offers little or no opportunity for motion and vestibular stimulation                         |

Comments:

Social Domain

- |   |   |
|---|---|
| 3 | Play space stimulates a full range of interactions among children and between children and adults |
| 2 | Play space stimulates some interactions but is lacking in some fashion                            |
| 1 | Play space provides little or no stimulation for social interaction                               |

Comments:

Intellectual Domain

- |   |  |
|---|--|
| 3 | Play space encourages creativity through manipulation of materials or configuration of the space |
| 2 | Play space allows for some creativity  |
| 1 | Play space provides little or no stimulus for creative or intellectual activity                  |

Comments:

Natural Environment

- |   |   |
|---|---|
| 3 | Play space offers opportunities for nature play or interaction with the natural environment           |
| 2 | Play space offers some opportunity for interaction with the natural environment (i.e. outdoors, etc.) |
| 1 | Play space offers little or no interaction with the natural environment (indoors, for example)        |

Comments:

Free/unstructured play

- |   |  |
|---|--|
| 3 | Play space has ample provision for free-play (open grassy area, for example) |
| 2 | Play space has some provision for free-play                                  |
| 1 | Play space inhibits free-play  |

Comments:

Comments: (General description, unique aspects, observations, particular needs, constraints or opportunities, etc.)

\*Note: the "Monitoring" attribute was not used in the final scoring as the data was considered inadequate and not relevant for the purposes of the study.





## APPENDIX B - Lowest Scoring Playspaces Serving Ages 2-5

### Appendix B – Lowest-Scoring Playspaces Serving Ages 2-5

10 Lowest -Scoring Playspaces for Components (2-5 Playspaces)

LOCATION	Component Score	SUBAREA
Summers Grove Townhomes	7	SubArea Two
ARHA_Henry	7	SubArea Four
TC Williams	8	SubArea Three
Cora Kelly School	8	SubArea Three
Ewald Park	8	SubArea Two
Woodbine Park	8	SubArea Three
Angel Park	8	SubArea Three
Maury School	8	SubArea Three
Lynhaven Park	8	SubArea Three
Samuel Tucker Elementary	8	SubArea Two

The tables to the left show the lowest-scoring playspaces serving 2-5 year olds for different indicators. Note that only one of these is in Subarea One, even though that subarea has the lowest overall level of service and has several notable gaps in service coverage.

10 Lowest-Scoring Playspaces for Modifiers (2-5 Playspaces)

LOCATION	Modifier Score	SUBAREA
Summers Grove Townhomes	13	SubArea Two
TC Williams	15	SubArea Three
Four Mile Run Park	15	SubArea Three
Newport Village Apt	15	SubArea One
Van Dorn Edsall	16	SubArea Two
Grace Episcopal	16	SubArea Three
Cora Kelly School	17	SubArea Three
Tarleton Park	17	SubArea Two
ARHA_Henry	18	SubArea Four
ARHA_Whiting	18	SubArea Two

10 Lowest-Scoring Playspaces for Overall Score (2-5 Playspaces)

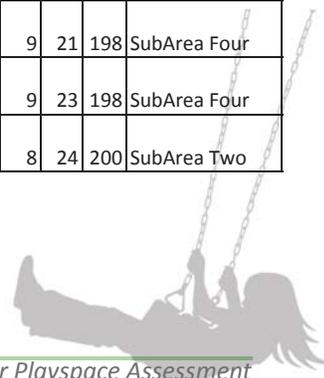
LOCATION	GRASP_Value	SUBAREA
Summers Grove Townhomes	98	SubArea Two
TC Williams	128	SubArea Three
ARHA_Henry	133	SubArea Four
Four Mile Run Park	135	SubArea Three
Cora Kelly School	136	SubArea Three
Ewald Park	152	SubArea Two
Van Dorn Edsall	153	SubArea Two
Grace Episcopal	160	SubArea Three
Woodbine Park	160	SubArea Three
Angel Park	168	SubArea Three





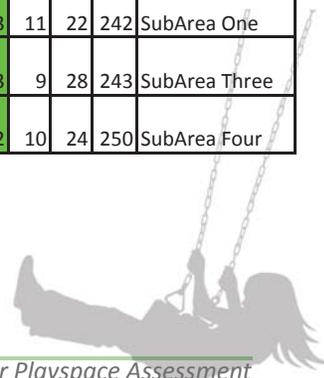


LOCATION	7Ages 2-5	Modifiers											Components					Comp_Sum	Mod_Sum	GRASP_Value	SUBAREA
		OPEN_ACCES	INVATION	ACCESS	SAFE_LOCAT	CONDITIONS	MONITORING	WEATHER	SEATING	RESTROOMS	DRINKING_W	PHYSICAL_D	SOCIAL_DOM	INTELLECTU	NATURAL_EN	FREE_UNSTR					
Van Dorn Edsall	Y	1	2	2	2	2	2	2	2	2	1	1	2	2	2	2	1	9	16	153	SubArea Two
Grace Episcopal	Y	1	1	2	3	3	1	2	1	1	1	1	2	3	3	1	1	10	16	160	SubArea Three
Woodbine Park	Y	3	3	2	3	3	1	1	2	1	1	1	2	1	1	2	2	8	20	160	SubArea Three
Angel Park	Y	3	3	2	2	3	2	2	2	1	1	1	2	1	2	2	1	8	20	168	SubArea Three
Holmes Run Park-S. Jordan St.	N	3	3	2	3	2	2	2	3	2	2	2	2	1	1	2	1	7	23	168	SubArea Two
ARHA_Whiting	Y	1	2	2	3	3	2	2	2	1	1	1	2	2	2	2	1	9	18	171	SubArea Two
Cameron Parke Townes	Y	1	1	2	3	3	2	2	3	1	1	1	2	2	2	2	1	9	18	171	SubArea Two
Chinquapin Park	Y	3	2	2	2	2	1	3	2	1	1	1	2	2	1	2	2	9	19	171	SubArea Three
Newport Village Apt	Y	0	1	2	3	2	2	1	3	1	1	1	2	2	2	2	3	11	15	176	SubArea One
Maury School	Y	3	3	2	3	3	2	2	2	1	1	1	1	1	1	2	3	8	21	176	SubArea Three
Lynhaven Park	Y	3	3	2	2	1	2	2	3	2	2	2	2	2	2	1	1	8	21	176	SubArea Three
Sunset Park	Y	3	3	1	2	3	1	1	2	1	1	1	2	2	2	2	2	10	18	180	SubArea Three
Powhatan Park	Y	3	3	2	2	2	1	1	2	1	1	1	2	2	2	2	2	10	18	180	SubArea Four
EOS 21 Condo	Y	1	1	2	3	3	2	1	1	2	2	2	3	2	2	1	2	10	19	180	SubArea Two
Samuel Tucker Elementary	Y	3	2	2	3	3	2	3	3	1	1	1	2	2	2	1	1	8	22	184	SubArea Two
Mason Avenue Park	Y	3	3	2	2	2	2	2	3	1	1	1	3	2	1	2	1	9	20	189	SubArea Three
G Washington School	Y	3	3	3	3	3	1	2	1	1	1	1	2	2	2	2	1	9	21	189	SubArea Three
Exchange at Van Dorn	Y	1	1	2	3	3	2	2	3	1	1	1	2	2	2	2	2	10	18	190	SubArea Two
Hume Springs Park	Y	3	3	2	2	2	2	2	1	1	1	1	2	2	2	2	2	10	18	190	SubArea Three
Chatham Square HOA	Y	3	2	2	3	3	2	2	3	1	1	1	1	2	2	2	2	9	21	198	SubArea Four
Armory Tot Lot	Y	3	3	2	3	3	1	2	3	1	1	1	2	2	1	2	2	9	22	198	SubArea Four
ARHA_Oronoco	N	3	2	2	3	3	2	2	3	1	1	1	1	2	2	2	2	9	21	198	SubArea Four
Bishop of Arlington	Y	1	3	2	3	3	2	1	1	3	3	3	2	2	2	1	2	9	23	198	SubArea Four
Landmark Mall	Y	3	3	2	2	3	2	3	3	3	1	1	2	2	1	1	2	8	24	200	SubArea Two





LOCATION	?Ages 2-5	Modifiers											Components					Comp_Sum	Mod_Sum	GRASP_Value	SUBAREA
		OPEN_ACCES	INVITATION	ACCESS	SAFE_LOCAT	CONDITIONS	MONITORING	WEATHER	SEATING	RESTROOMS	DRINKING_W	PHYSICAL_D	SOCIAL_DOM	INTELLECTU	NATURAL_EN	FREE_UNSTR					
Tarleton Park	Y	3	1	1	2	3	1	1	3	1	1	3	2	1	3	3	12	17	204	SubArea Two	
James K Polk School	Y	3	3	2	3	3	2	2	3	1	1	2	1	1	2	3	9	22	207	SubArea Two	
Charles Barrett School	Y	3	3	3	3	2	2	2	1	2	2	2	1	1	3	2	9	22	207	SubArea Three	
Southern Towers	N	1	2	2	3	3	2	1	3	1	1	2	2	1	3	3	11	18	209	SubArea One	
Goat Hill Park	Y	3	2	2	3	3	2	2	2	1	1	3	2	2	2	1	10	20	210	SubArea Three	
Hillwood Apt	Y	3	1	2	3	3	1	1	2	1	1	2	2	2	3	3	12	18	216	SubArea One	
Fort Ward Park Hist Site	Y	3	1	2	2	3	1	2	2	1	1	2	2	2	3	3	12	18	216	SubArea Two	
MeadowCreek Apt	Y	3	2	2	3	2	1	1	2	1	1	2	2	2	3	3	12	18	216	SubArea One	
Charles Houston Rec Center	Y	2	2	2	3	3	2	2	2	3	3	3	2	2	1	1	9	23	216	SubArea Four	
Patrick Henry School	Y	3	3	2	3	2	2	1	2	1	1	3	2	2	1	3	11	19	220	SubArea Two	
Mt Jefferson Park Green	Y	3	3	2	2	3	2	2	3	1	1	2	2	2	2	2	10	21	220	SubArea Three	
Park Fairfax	Y	1	1	2	2	3	1	3	3	3	3	2	2	2	2	2	10	22	220	SubArea Three	
Fairlington Un Methodist	N	3	2	1	3	2	2	2	3	1	1	2	2	2	2	3	11	19	220	SubArea Two	
James Mulligan Park	Y	3	2	2	2	2	2	2	2	1	1	3	2	1	3	3	12	18	228	SubArea One	
Potomac Greens HOA	Y	3	1	2	3	3	1	1	3	1	1	2	2	2	3	3	12	19	228	SubArea Four	
Warwick Landover	Y	3	3	2	3	3	2	2	3	1	1	3	1	1	2	3	10	22	230	SubArea Three	
Nannie J Lee Recreation	Y	3	1	2	3	3	2	2	3	2	2	2	2	2	2	2	10	22	230	SubArea Four	
Old Presbyterian church meeting house	Y	2	2	2	3	3	2	3	2	1	1	2	2	3	2	2	11	20	231	SubArea Four	
George Mason School	Y	3	2	2	3	3	2	2	2	1	1	3	2	1	2	3	11	20	231	SubArea Three	
Ben Brenman Park	Y	3	2	2	3	3	2	2	3	3	3	2	2	2	1	2	9	25	234	SubArea Two	
Del Ray Playground	Y	3	3	2	3	3	2	1	3	1	1	2	2	3	2	2	11	21	242	SubArea Three	
D Kelley Park Ford Nat Cen	N	3	3	3	3	3	2	1	1	3	0	2	2	2	2	3	11	22	242	SubArea One	
Charles Barrett Park	N	3	3	3	3	3	2	3	1	3	3	2	1	1	2	3	9	28	243	SubArea Three	
Montgomery Park	Y	3	3	2	3	3	2	3	2	1	3	2	3	2	1	2	10	24	250	SubArea Four	





LOCATION	?Ages 2-5	Modifiers											Components					GRASP Value	SUBAREA	
		OPEN_ACCES	INVITATION	ACCESS	SAFE_LOCAT	CONDITIONS	MONITORING	WEATHER	SEATING	RESTROOMS	DRINKING_W	PHYSICAL_D	SOCIAL_DOM	INTELLECTU	NATURAL_EN	FREE_UNSTR	Comp_Sum			Mod_Sum
Lyles Crouch School	Y	3	3	2	3	3	2	2	3	1	1	2	1	2	3	3	11	22	253	SubArea Four
Fayette Queen Park	Y	3	3	2	3	3	2	2	3	1	1	3	2	2	2	2	11	22	253	SubArea Four
A L Boothe Park	Y	3	3	2	2	2	2	3	2	3	1	2	2	2	2	3	11	22	253	SubArea Two
Mt Vernon School	Y	3	3	3	3	2	2	2	3	2	3	2	1	1	3	3	10	25	260	SubArea Three
Brookvalley Park	Y	3	3	2	2	3	2	2	3	1	1	3	3	2	2	2	12	21	264	SubArea Two
Stevenson Park	Y	3	3	2	3	3	2	3	3	1	1	3	2	2	2	2	11	23	264	SubArea Two
Simpson Stadium Park	Y	3	3	2	2	3	2	2	2	2	3	2	2	2	3	2	11	23	264	SubArea Three
Chetworth Park	Y	3	2	1	3	3	2	2	3	1	3	2	2	3	2	3	12	22	276	SubArea Four
Beach Park	Y	3	3	2	3	3	1	2	2	2	2	3	2	2	2	3	12	23	276	SubArea Three
D MacArthur School	Y	3	3	3	3	3	1	2	2	1	1	3	3	2	2	3	13	22	286	SubArea Three
Bev Hills Un Methodist	Y	3	3	2	3	3	2	2	2	1	1	2	3	3	3	2	13	22	286	SubArea Three
Watergate	Y	1	2	2	3	3	3	2	2	3	3	3	2	2	2	3	12	22	288	SubArea Two
J Houston School	Y	3	3	2	3	3	2	2	1	1	1	3	3	2	3	3	14	20	294	SubArea Four
Chinquapin Rec Center	Y	2	1	3	3	3	3	3	3	3	3	2	2	3	1	3	11	25	297	SubArea Three
Hill Park	Y	3	3	2	3	3	2	2	2	1	2	3	3	3	2	2	13	22	299	SubArea Four
Hooffs Run Park Green	Y	3	3	2	3	3	2	2	3	1	3	2	3	2	2	3	12	24	300	SubArea Three
Beverly Park	Y	3	3	2	3	3	2	3	3	1	1	2	3	3	2	3	13	23	312	SubArea Three
John Adams School	Y	1	3	3	3	3	3	1	2	1	1	3	3	3	3	3	15	20	315	SubArea One
Charles Houston Rec Center	Y	2	2	3	3	3	3	3	3	3	3	2	3	3	1	3	12	26	336	SubArea Four

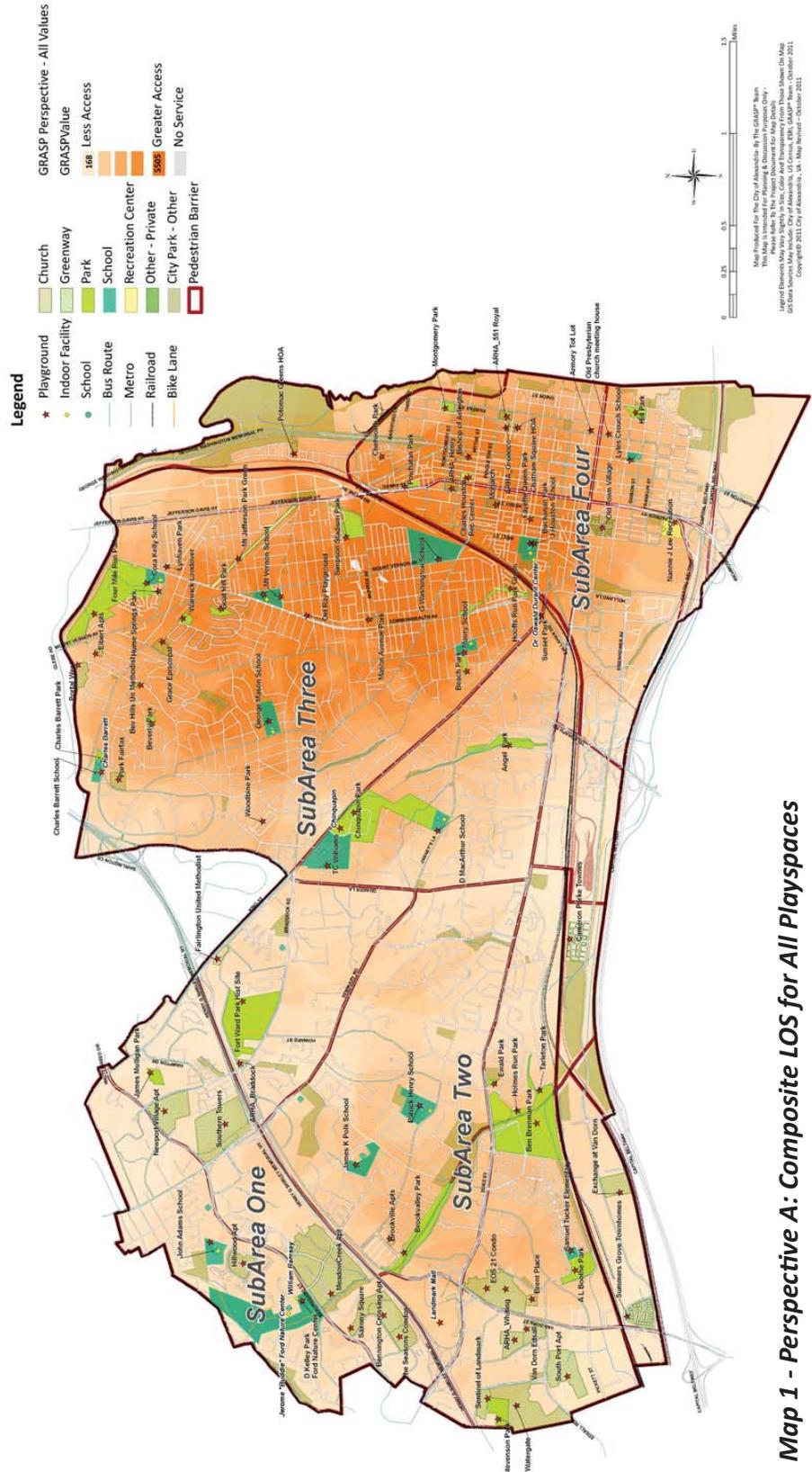




# APPENDIX D - Detailed Level of Service Analyses

## Perspective A: Access to All Playgrounds

The first Perspective shows the results of plotting the catchment areas for all of the playspaces in the inventory, including those suited to ages 2-5 and all others. (Other Perspectives were generated that focus on only those playspaces serving 2-5 year olds, and those are presented below.) Darker shades indicate higher service values, and there is a numerical value associated with every shade on the map. The values range from a low of 168 points (very lightest shade) to a high of 5,505 points (darkest shade).



Map 1 - Perspective A: Composite LOS for All Playspaces

Map Produced for the City of Alexandria by The GRASP Team  
 Please Refer to the Project Document for Map Details  
 Legend: (Color Key) - City of Alexandria, VA, GRASP Team, October 2021  
 City of Alexandria Maps: City of Alexandria, VA, GRASP Team, October 2021  
 Copyright © 2011 City of Alexandria, VA. Map Revised - October 2021



### **Table PA: Access to All Playgrounds**

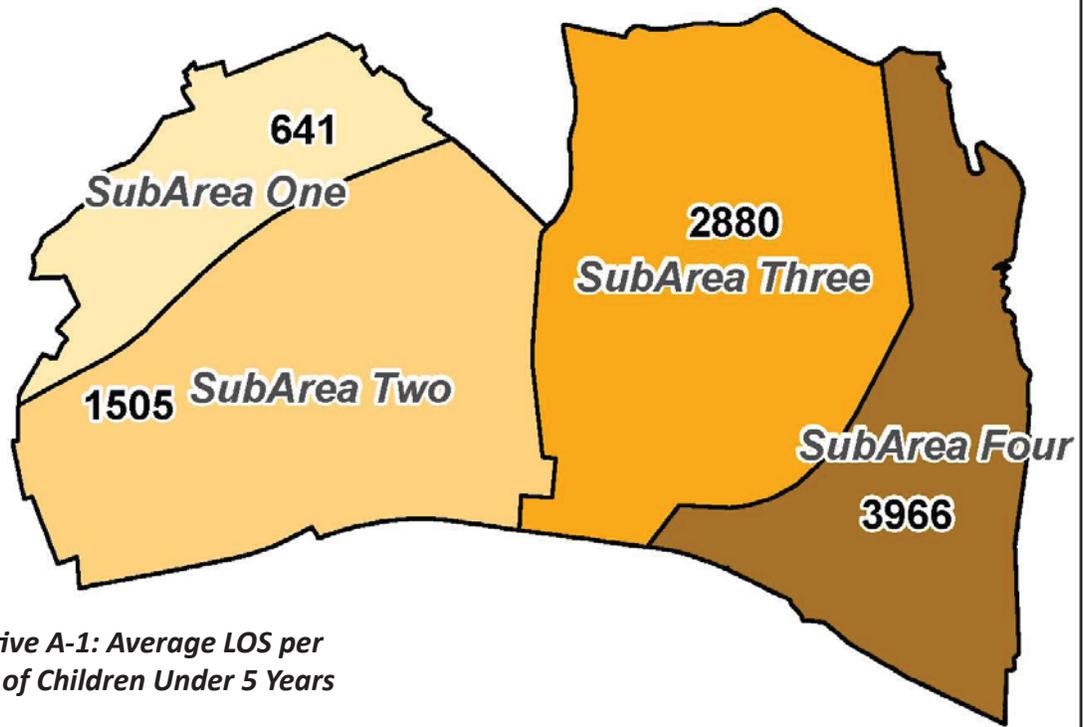
It is immediately apparent that higher LOS values overlay the eastern part of Alexandria (SubAreas Three and Four), and lower values overlay the central and western parts (SubAreas One and Two). Stated another way, when the combined concentration of play spaces with their computed values is analyzed, the overall value of play spaces in eastern Alexandria is higher than in western Alexandria.

Table PA (below) provides some statistics derived from Perspective A. It shows the percentage of the city that each subarea makes up and the total acres each one comprises. Under the assumptions and parameters on which this Perspective is based, the city overall and all sub areas have 100% coverage of service, meaning that the LOS is greater than zero for all parts of the city. However, the average LOS for each sub area varies as shown in the table. SubArea One has the lowest average LOS, at 1,121, while SubArea Three has the highest average LOS value, at 2,908. The overall average for Alexandria is 2,167.

These numbers are derived from the mapping process, and are not related to any set of “standards”. In fact, there are no commonly accepted standards or methodology for measuring the value of play across a geographic area. The process used here was developed specifically to accomplish the goals of this project, but it could be applied to other communities.

Zone	Percent of City	Total Acres	Acres with LOS	Percent of Total with LOS	Average LOS per Acre Served
SubArea One	12%	1218.3	1218.3	100%	1121.2
SubArea Two	32%	3183.4	3183.1	100%	1475.6
SubArea Three	34%	3295.9	3295.9	100%	2908.5
SubArea Four	21%	2108.2	2108.2	100%	2657.0
<b>Entire Area</b>	<b>100%</b>	<b>9805.8</b>	<b>9805.5</b>	<b>100%</b>	<b>2167.2</b>





**Map 2 - Perspective A-1: Average LOS per Average Density of Children Under 5 Years Old by Subarea**

The shades in Perspective A are in effect measuring the density of service that accrues as the catchment areas for all of the playspaces are overlaid on one another. We can compare this to the density of children aged 5 and under within each subarea to get an idea of the relationship between the demand for playspaces and the value of playspaces provided. Map 2 (above) does this. (See Demographics Section for more information on density and other demographics associated with children in Alexandria).

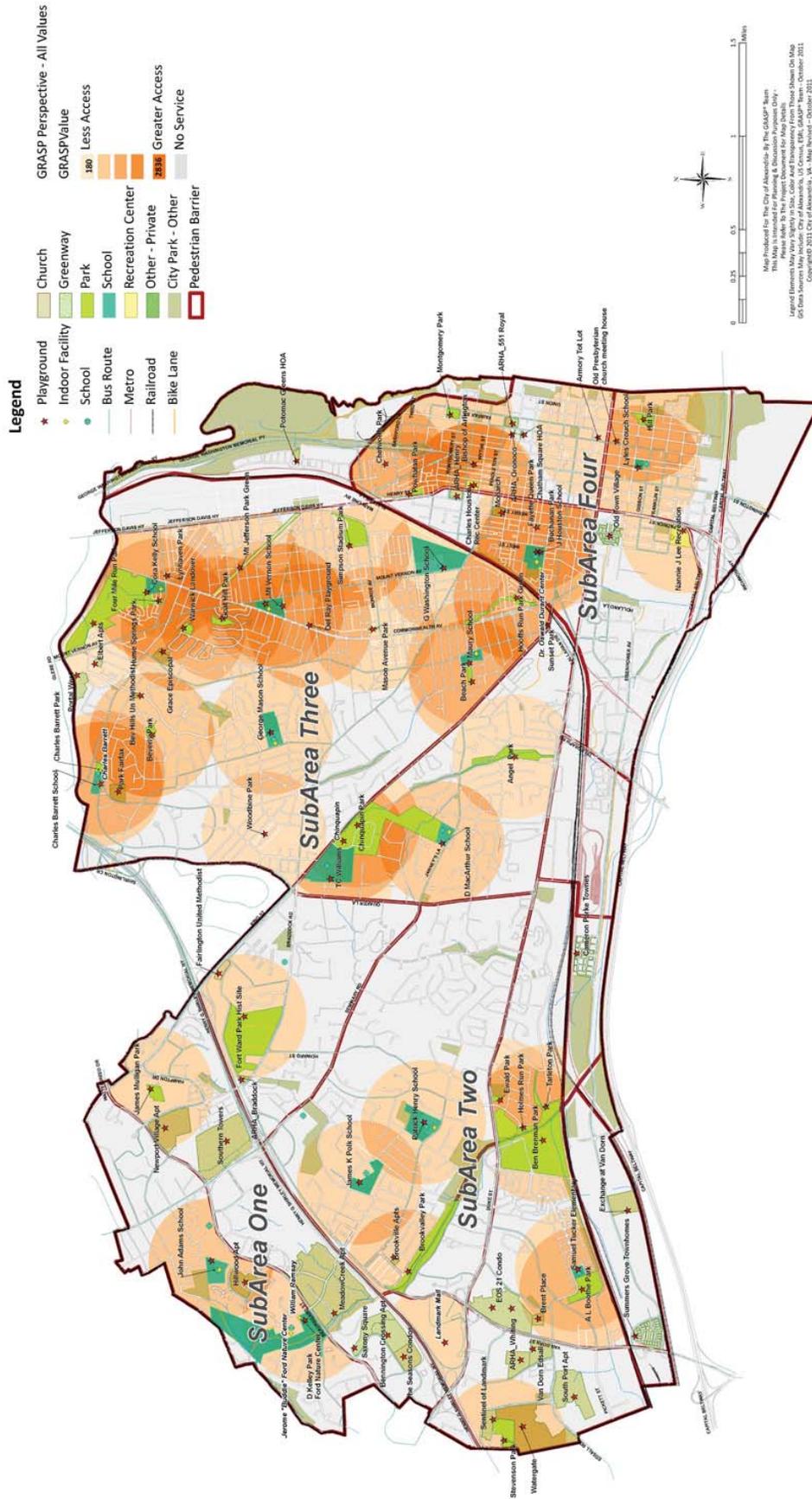
In this map, the Average LOS per Acre Served for each subarea from Table PA above is divided by the average density of children 5 and under in that subarea to arrive at the numbers shown on the map. It can be seen that service as it relates to density of children is lowest in SubArea One, and highest in SubArea Four, by a factor of more than six – i.e., the value of service on average in SubArea Four is six times that of SubArea One.





## Perspective B: Walkable Access to Playgrounds

This perspective is essentially the same as Perspective A, but without the 1-mile catchment areas. Only the walkable catchment areas were used. This reveals a different picture than Perspective A. The differences in LOS for west to east do not appear as distinct, although a large gap in service in the center of Alexandria is readily apparent.



Map 3 - Perspective B: Walkable Access for All Playspaces



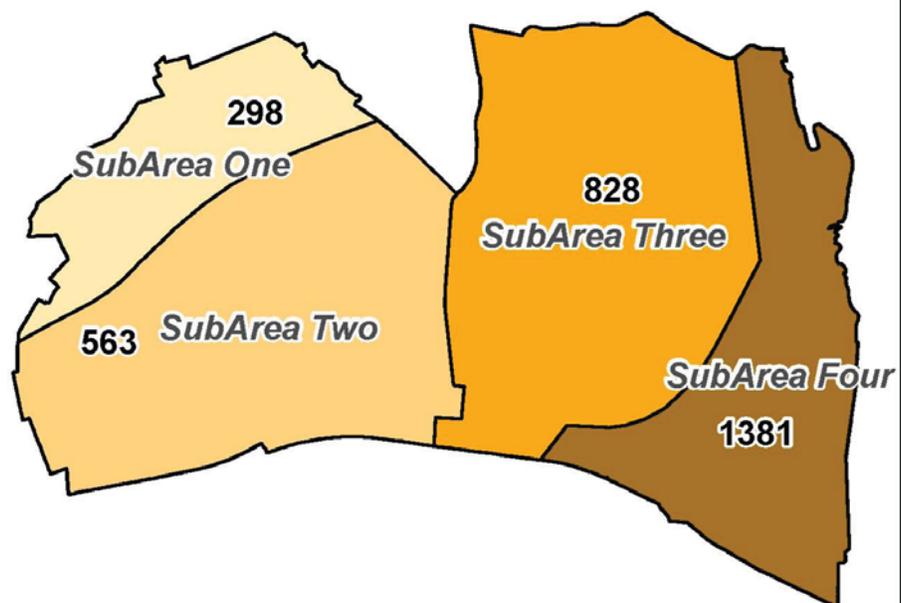


Areas with no service occur throughout the city, and where service does exist, the LOS values range from 180 to 2836. The table below shows some of the other statistics derived from Perspective B. The Average LOS for SubArea One is still the lowest, at 521.4, and SubArea Four is the highest at 925.6. The overall average citywide is 745.7.

**Table PB: Walkable Access for All Playspaces**

Zone	Percent of City	Total Acres	Acres with LOS	Percent of Total with LOS	Average LOS per Acre Served
SubArea One	12%	1218.3	572.3	47%	521.4
SubArea Two	32%	3183.4	1340.0	42%	552.4
SubArea Three	34%	3295.9	2533.3	77%	836.0
SubArea Four	21%	2108.2	880.5	42%	925.6
<b>Entire Area</b>	<b>100%</b>	<b>9805.8</b>	<b>5326.2</b>	<b>54%</b>	<b>745.7</b>

Coverages for service are also lower in this Perspective. Overall, 54% of Alexandria has walkable service at some level greater than zero (or at least 180 to be more exact). In this analysis, SubArea Three has the highest coverage, at 77%, while SubAreas Two and Four each have only 42% coverage. So while SubArea One has low numeric values for LOS, it does not lag behind in percent coverage for walkable access, except when compared to SubArea Three.



**Map 4 - Perspective B-1:  
Average LOS per Average  
Density of Children Under 5  
Years Old by Subarea**



When the density of service is compared to the density of children aged 5 and under as it was in Perspective A, the numbers shown on Map 4 (at left) result for each subarea. In this case, the highest value (SubArea Four) is nearly five times that of the lowest (SubArea One).

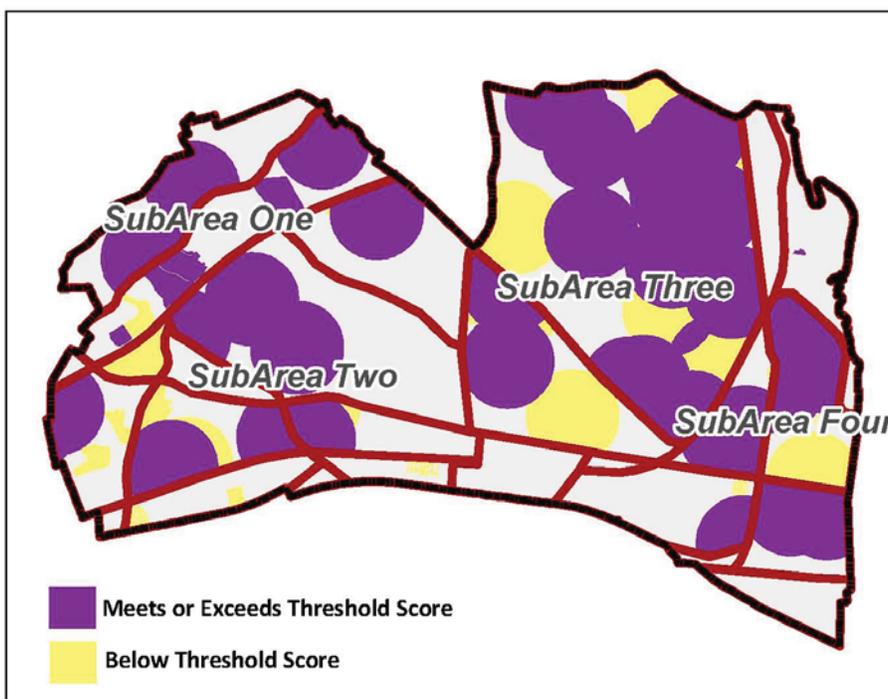
### **Threshold Mapping**

Another way to analyze the information in Perspective B is shown in the following map (Map 5) with purple and yellow shading. On this map, the numeric values represented by the orange shades in Perspective B have been bracketed to show where the values are at or above a threshold value. The threshold value used is 400 points. This number was determined by calculating the numeric value that a play space would have if it scored a “2” on all of the attributes in the inventory, then doubling that number to reflect the value that results when the 1/3 mile and one-mile catchment areas are overlaid for a given playspace. This effectively places a premium on walkable proximity to a playspace in the Perspectives.

A purple shade is used to show all locations where the LOS value is 400 points or greater. A yellow shade is used to show where there is some service, but the value of that service is below 400 points (LOS = 0<400). Yellow areas typically indicate that there is a play space that serves that area, but it is performing below the threshold value. This could be considered an opportunity in the sense that upgrading an existing facility to meet the threshold value may be easier than creating an entirely new play space where there currently are none.

Areas shown in gray on Map 5 are locations where there is no play space at all within walkable proximity, either due to distance or the presence of a barrier that prevents or inhibits walking.

The statistics for this map are shown in the following Table PB. They show that overall, 54 % of Alexandria has walkable proximity to a play space that meets the threshold value. This is comprised from the 9% of Alexandria that has some service, but it is below the threshold, and 45% of Alexandria that has LOS above the threshold.



**Map 5 - Perspective B-2:  
Threshold Map**





**Table PB-2: Walkable LOS for All Playspaces**

Zone	Percent of Total with LOS	Percent Total Area <0 AND <400	Percent Total Area >=400
SubArea One	47%	2%	45%
SubArea Two	42%	4%	38%
SubArea Three	77%	17%	59%
SubArea Four	42%	6%	35%
<b>Entire Area</b>	<b>54%</b>	<b>9%</b>	<b>46%</b>







As in the previous Perspectives, higher LOS values overlay the eastern part of Alexandria (SubAreas Three and Four), and lower values overlay the central and western parts (SubAreas One and Two). This indicates that the combination of the concentration of play spaces and the computed value of the play spaces specific to 2-5 year olds located in eastern Alexandria is higher than it is in western Alexandria.

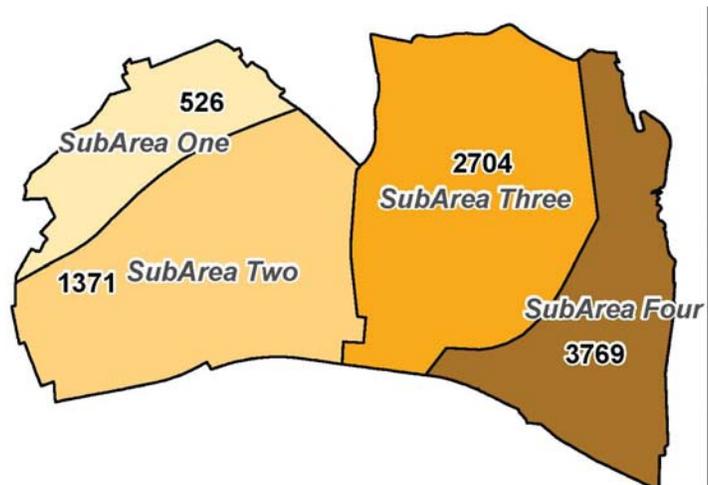
The following Table PC provides statistics derived from Perspective C. The city overall and all sub areas have a 100% coverage of service, meaning that the LOS is greater than zero for all parts of the city. However, the average LOS for each sub area varies as shown in the table. SubArea One has the lowest average LOS, at 921.1, while SubArea Three has the highest average LOS value, at 2730.8. The overall average for Alexandria is 2011.5.

**Table PC: Composite LOS for Playspaces Serving 2-5 Year Olds**

Zone	Percent of City	Total Acres	Acres with LOS	Percent of Total with LOS	Average LOS per Acre Served
SubArea One	12%	1218.3	1218.3	100%	921.1
SubArea Two	32%	3183.4	3183.1	100%	1344.0
SubArea Three	34%	3295.9	3295.9	100%	2730.8
SubArea Four	21%	2108.2	2108.2	100%	2524.7
<b>Entire Area</b>	<b>100%</b>	<b>9805.8</b>	<b>9805.5</b>	<b>100%</b>	<b>2011.5</b>

Results when the average LOS for each subarea in Perspective C is related to the density of children under five years old is shown in Map 7 (at left). In this case, SubArea Four has a value that is more than seven times that of SubArea One.

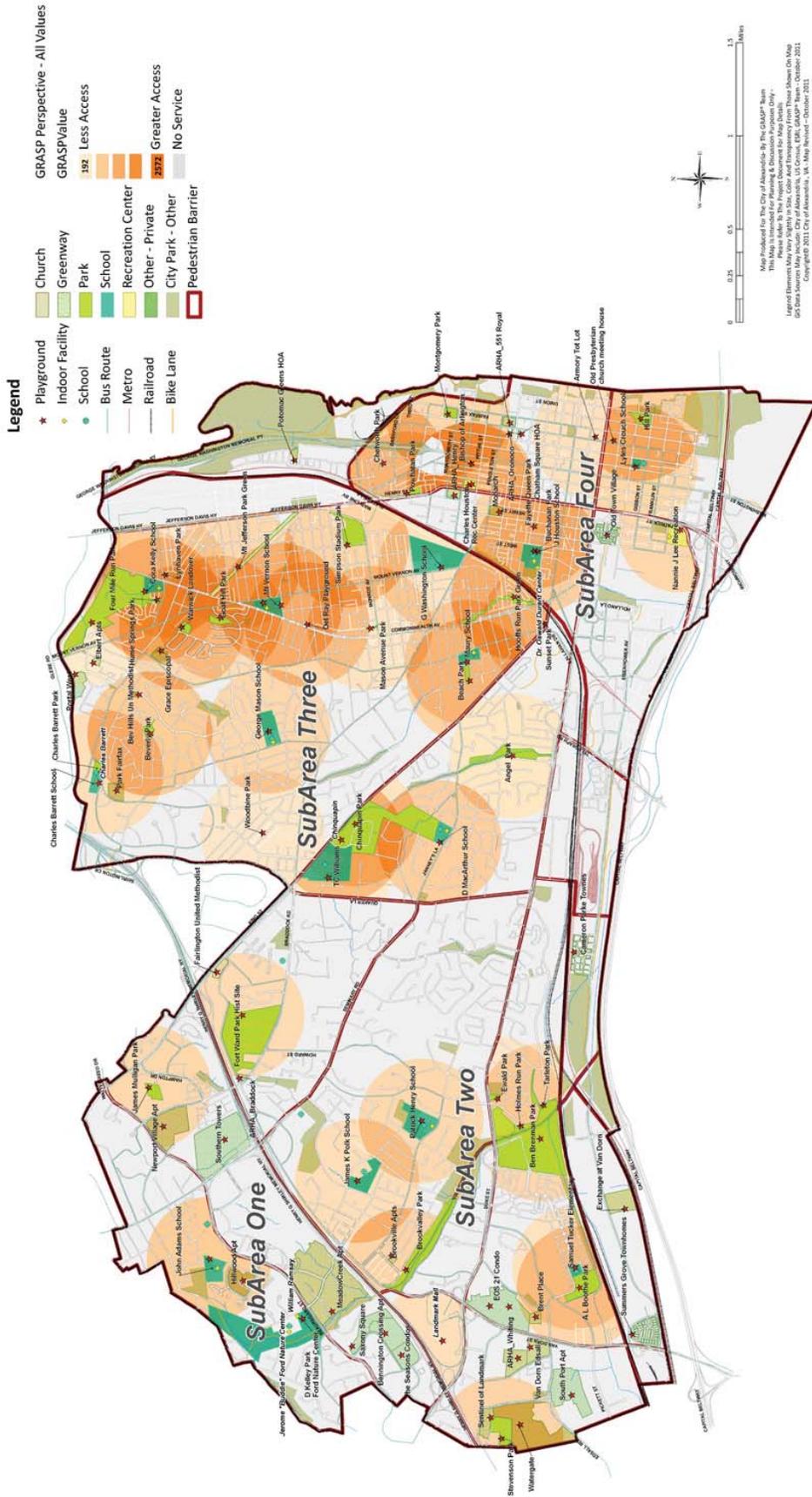
**Map 7 - Perspective C-1: Average LOS per Average Density of Children Under 2 Years Old by Subarea (Playspaces Serving Ages 2-5 Only)**





## Perspective D – Walkable Access to Playspaces Serving 2-5 Year Olds

Only the walkable catchment areas for playspaces rated appropriate for children ages 2-5 were used to generate this Perspective. It displays the relative access to playspaces suited to the needs of children aged 2-5 based purely on walkable proximity, after barriers that would impede or inhibit walking are taken into account.



Map 8 - Perspective D: Walkable Access to Playspaces Serving 2-5 Year Olds





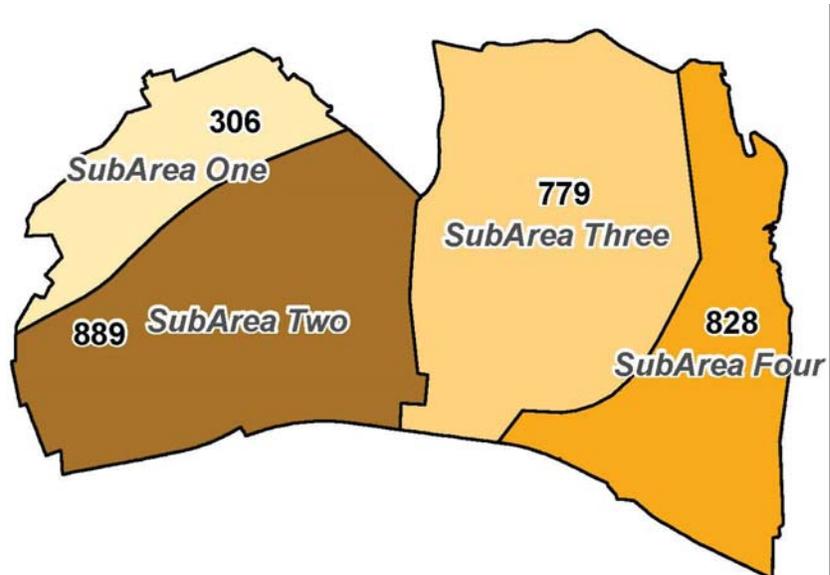
Table PD below shows the statistics derived from Perspective D. The Average LOS for SubArea One is still the lowest, at 536.2, and SubArea Two is the highest at 870.8. The overall average citywide is 719.4.

Coverages for service are also lower in this Perspective. Overall, 52% of Alexandria has walkable service at some level greater than zero. In this analysis, SubArea Three has the highest coverage, at 76%, while SubArea Four has only 31% coverage.

**Table PD: Walkable LOS for Playspaces Serving 2-5 Year Olds**

Zone	Percent of City	Total Acres	Acres with LOS	Percent of Total with LOS	Average LOS per Acre Served
SubArea One	32%	3183.4	1317.8	41%	536.2
SubArea Two	21%	2108.2	875.0	42%	870.8
SubArea Three	34%	3295.9	2519.1	76%	786.9
SubArea Four	12%	1218.3	371.6	31%	555.1
<b>Entire Area</b>	<b>100%</b>	<b>9805.8</b>	<b>5083.4</b>	<b>52%</b>	<b>719.4</b>

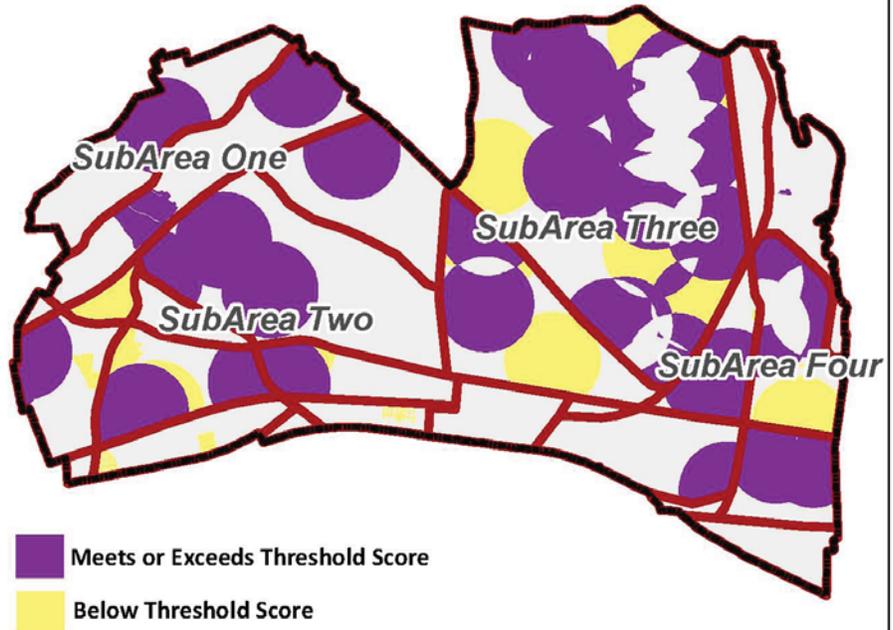
Results when the average LOS for each subarea in Perspective D is related to the density of children under five years old is shown in Map 9 (at left). In this case, SubArea Four has a value that is less than three times that of SubArea One. Comparing this to the numbers shown on Map 7 shows that when walkable access is considered, SubArea One is at less of a disadvantage over the other subareas than when all means of access are considered. However, there is still a significant difference. In this case, SubArea Two has the highest score and it is 2.7 times that of SubArea One.



**Map 9 - Perspective D-1: Average LOS/Average Density of Children Under 2 Years Old by Subarea (Walkable Access to Playspaces Serving Ages 2-5 Only)**



The Threshold Map for Perspective D is shown in Map 10. The statistics for this map are shown in the following table. They show that overall, 52 % of Alexandria has walkable proximity to a play space. This includes the 8% of Alexandria that has some service but that service is below the threshold, and 44% of Alexandria that has LOS above the threshold.



**Map 10 - Perspective D:  
Threshold Map**

**Table PD: Walkable LOS for Playspaces Serving 2-5 Year Olds**

Zone	Percent of Total with LOS	Percent Total Area <0 AND <400	Percent Total Area >=400
SubArea One	47%	3%	38%
SubArea Two	42%	6%	35%
SubArea Three	76%	17%	59%
SubArea Four	31%	0%	30%
<b>Entire Area</b>	<b>52%</b>	<b>8%</b>	<b>44%</b>





## **GRASP® Index**

The methodology used to evaluate play in Alexandria includes another way to look at service. It consists of an index created by adding up the total value of all of the play spaces within a given area and dividing it by the population of the same area in thousands. The index is, in effect, a “per capita” value for all of the “things” in the inventory that are physically located within a given area.

In the case of this study, the population figure used is the number of children under the age of five. For example, to calculate the GRASP® Index for Alexandria as a whole, the total value of all of the playgrounds in the inventory is divided by the total number of children under five years of age in the city (in thousands). This yields an index of 173.2. This number can be used as a baseline from which targets can be set and progress towards them can be measured. A higher GRASP® Index indicates a higher level of service.

For example, if improvements are made to existing playspaces that raise their scores while the population of children stays unchanged, the GRASP® Index will go up. Conversely, if no changes to the existing infrastructure of play spaces occur, but the population of children under five increases, the GRASP® Index will go down.

A GRASP® Index is relatively easy to update: all that is required is current data in the inventory and current population data. For this reason, it is recommended that the inventory dataset and GIS shapefiles generated from this study be kept current. That task should be assigned to one of the partners in the study who is willing and able to take it on.

In the tables on the next page, the GRASP® Indices shown correspond to the playspaces in the inventory used to generate Perspectives A and C (as described above). Perspective A looked at the service provided by all playspaces in the inventory, and Perspective C looked at only the ones that are appropriate for 2-5 year olds. The yellow shade in the tables indicates the highest value in each category.

From this it can be seen that SubArea Three has the highest total GRASP® value, meaning that the total of the scores for all of the playspaces located within the boundaries of that subarea is higher than the corresponding total for each of the other subareas. But because SubArea Three also has the greatest number of children under five, there is a greater demand upon the playspaces located within it, and a correspondingly lower GRASP® Index than SubArea Four, even though Subarea Four has a lower total value for the playspaces within it.

SubArea One has a relatively low GRASP® Index, indicating a low level of service and suggesting that the subarea is lacking in the number and quality of playspaces found there.





**Table PA: Composite LOS for All Playspaces**

Zone	Total GRASP® Value	Population (Under 5)	GRASP® Index (population 1,000s)
SubArea One	1896	2128	891
SubArea Two	4569	3106	1471
SubArea Three	6374	3317	1922
SubArea Four	4405	1403	3140
Entire Area	17244	9954	1732

**Table PC: Composite LOS for Playspaces Serving 2-5 Year Olds**

Zone	Total GRASP® Value	Population (Under 5)	GRASP® Index (population 1,000s)
SubArea One	1151	2128	541
SubArea Two	3469	3106	1175
SubArea Three	5999	3317	1809
SubArea Four	3773	1403	2689
Entire Area	14572	9954	1464

**Conclusions**

The analyses can be used to gain an understanding of how the current locations and values of existing play spaces are distributed across Alexandria. When combined with other information, including feedback from focus groups, demographic data, etc. these are even more useful. For a summary of conclusions and recommendations based on these analyses, see the main body of the report.

**Conclusions for Appendix D**

The analyses can be used to gain an understanding of how the current locations and values of existing play spaces are distributed across Alexandria. When combined with other information, including feedback from focus groups, or demographic data, these will be even more useful. Those analyses will occur as we continue towards completion of the project. These findings are the initial results of the analysis, and will provide a basis for discussion of the direction in which to proceed.



# CONCEPT FOR AN IDEAL PLAYGROUND

AN IDEAL PLAYGROUND INCORPORATES ALL KINDS OF PLAY

**Note: You may not be able to do all of the things shown here, but try to do as many of them as you can. They don't have to be expensive or elaborate as long as you can offer the kinds of experiences they provide.**

This is a concept for an ideal playspace that has all of the desired features that provide the full benefit of healthy play. While it may not be possible to offer all of these features in every playspace, please try to include as many as possible in the playspaces you create."

