

**Network Design –
Community Assets**

Includes military lands, tribal lands, SITLA lands, historic districts, transit stops, transit lines, railroads, cemeteries, historic trails, sites of community significance, parks and open space, community and regional trails, and other lands with community assets within them.



Project Goals for the Wasatch Front’s Regional Community Green Infrastructure:

- A. Promote the development of healthy communities, both urban and rural, including the counties, cities, towns, parks, faith-based activities, commercial areas and transit systems in the Wasatch Front - places in which we live, work & gather.
- B. Preserve and strengthen the community resources, both built and natural, as well as the historical heritage, regional identity and sense of community in the Wasatch Front.
- C. Preserve the economic health of our region and protect municipal budgets by enhancing the value and benefits of an interconnected system and the sustainable community lifestyles they provide.

COMMUNITY AND CULTURAL LANDSCAPE NETWORK CRITERIA		
CORES	SIGNIFICANCE/EXPLANATION	FURTHER RESEARCH
1. Protected lands with community assets within them (Hill Air Force Base, tribal lands)	Protected lands have a higher likelihood of providing permanent GI services. Inclusion of protected lands is well-documented. ¹ These lands are significant to the sense of community and the cultural diversity of the region. Data from AGRC.	
2. Historic districts and historic easements	Significantly noted history of the area. Historic District data from AGRC. Historic Conservation Easement data from UDWR and AGRC.	
3. Transit stops	Transit nodes - significant means to connect humans to community resources with reduced impacts. Data from AGRC.	<i>Future prioritization by number of population served within ¼ mile (15 minute walk) (Fairfax Co, VA Planning Commission TOD Committee)</i>
4. Parks and open space (includes all parks, major rivers, cemeteries & the Great Salt Lake)	These elements contribute to the physical and psychological health of residents. Data from AGRC.	
5. Viewsheds and ridgelines	Provide aesthetic benefits to communities and residents	<i>Not currently mapped. These are open for future comment, and future mapping efforts should include these elements.</i>
6. Community institutions – libraries, zoos, schools, etc.	Community institutions promote health and learning and provide gathering locations, all of which benefit communities ² . Data from AGRC.	
Exclusion Factors:		
1. Exclude areas with T&E species present	Remove areas with T&E species within them to protect their habitat.	<i>Not currently mapped. Future research efforts should conduct this exclusion – data was not available to this team to conduct it.</i>

2. Hazard areas (fire hazard, problem soils, landslide areas, fault lines)	Hazard areas should be avoided in future GI investment efforts ³ . Data from AGRC & WFRC.	<i>Not shown because too many core areas would be removed.</i>
HUBS	SIGNIFICANCE/EXPLANATION	FURTHER RESEARCH
1. Protected lands not listed above with community assets within them – SITLA, BLM, and remainder of military lands.	These lands contribute significantly to the economic health of the communities and region. Data from AGRC.	
Exclusion Factors:		
1. Exclude areas with T&E species present	Remove areas with T&E species within them to protect their habitat.	<i>Not currently mapped. Future research efforts should conduct this exclusion – data was not available to this team to conduct it.</i>
2. Hazard areas (same as above)	See above.	<i>Not shown because too many hub areas would be removed.</i>
CORRIDORS	SIGNIFICANCE/EXPLANATION	FURTHER RESEARCH
1. Transit lines and other mass transit connections, including all highways and major roads	Significant means to connect humans to community resources. Data from AGRC.	
2. Multi-modal connections, including trail corridors from recreational assets	Regional trails and other connecting trails. Data from AGRC.	
3. Canals	Important landscape corridors. Data from AGRC.	
Exclusion Factors:		
1. Hazard areas (same as above)	See above.	<i>Not shown because too many corridors would be removed.</i>

¹See Utah DFFSL 2010 Statewide Assessment document available at <http://www.ffsl.utah.gov/stateassessment.php>.

² Community institutions are as follows: Red Butte Arboretum, Hogle Zoo, Ogden Nature Center, faith-based activity areas (200 m buffer), universities (buffer sizes vary), libraries (200 meter buffer), schools (200 meter buffer), hospitals (400 meter buffer) and elderly-care facilities (200 meter buffer).

³ Hazard areas include fault lines, high to extreme fire hazard areas, areas with high liquefaction potential, problem soil areas (expansive soils) and areas susceptible to landslides.

References:

Fairfax County, VA Planning Commission TOD Committee – Walking Distance Research
http://www.fairfaxcounty.gov/planning/tod_docs/walking_distance_abstracts.pdf

Experts consulted:

Stephen Goldsmith, University of Utah, Department of Regional Planning

Community Asset Network Criteria – Mapping Process**Community Cores**

1. Create a new toolbox in ArcCatalog for Recreational modeling - CommunityAssets
 - A. #1 Core Criteria – Protected and Public Lands with Community Assets
 - i. Merge Hill Airforce Base and Tribal Lands → Cult_prot_landscores
 - ii. Convert to raster → comprotland
 - iii. Reclassify to 0 and 1 for analysis → *rc_commprot*
 - B. #2 Core Criteria – Historic Elements
 - i. Merge Historic Districts with Historic Easements → Hist_Districts_Easements, convert to raster → hist_areas, reclassify to 0 and 1 for analysis → *rc_histareas1*
 - C. #3 Core Criteria – Transit Stops
 - i. Merge together Commuter Rail Stops and Light Rail Stations → commuter_light_rail_stops, buffer by 400 meters (.25 mile) → transitstops_400mbuff, convert to raster → transstop_buf, reclassify to 0 and 1 for analysis → *rc_stop_buf1*
 - D. #4 Core Criteria – Parks and Open Space
 - i. Merge together local parks and state parks → all_parks1, convert to raster → all_parks3, reclassify to 0 and 1 for analysis → rc_allparks4
 - ii. Buffer cemeteries by 400 meters → cemeteries_400mbuff, convert to raster → cemetery_buff, reclassify to 0 and 1 for analysis → rc_cem400m
 - iii. Buffer rivers by 100 meters → rivers_100mbuff, convert to raster → rivers_100m, reclassify to 0 and 1 for analysis → rc_rivers100m
 - iv. Convert AGRC Great Salt Lake shapefile to raster → gsaltlake, reclassify → rc_saltlake
 - v. Use single output map algebra to add the above 4 layers → opencore, reclassify so all values 1 or higher equal 1 → *rc_opencore8*
 - E. #6 Core Criteria – Community Institutions
 - i. Merge together all buffered points from footnote 2 → placepointsbuffer_all, convert to raster → placepoints4, reclassify to 0 and 1 for analysis → rc_plcpoints2
 - ii. Merge together all polygons from footnote 2 → Comm_Areas, convert to raster → comm_areas, reclassify to 0 and 1 for analysis → comm_areas1
 - iii. Use single output map algebra to add the above 2 layers → *rc_cultcores4*
2. Merge together the core criteria 1 – 6
 - A. Use single output map algebra to add the above final, reclassified rasters together → cc_cores4
 - B. Use the reclassify tool to change any value above 1 to a 1, and then all nodata values to 0 → *rc_cc_cores4*

Community Hubs

1. Develop hub criteria
 - A. #1 Hub Criteria – protected lands not covered in core #1 with community assets within them (BLM, SITLA, military lands other than Hill AFB)
 - i. Merge together all lands listed above → comm_protland_hub
 - ii. Convert to raster → protland_hub2
 - iii. Reclassify to 0 and 1 for analysis → *rc_prot_hub4*

Community Corridors

1. Develop corridor criteria
 - A. #1 Corridor Criteria – transit lines, highways and major roads
 - i. Merge together Commuter Rail Routes, Light Rail Lines and Railroads → commuter_lightrail_railroad_routes, buffer by 200 meters → transitlines_200mbuff, convert to raster → translinebuf, reclassify to 0 and 1 for analysis → rc_trlinebuf1
 - ii. Select major roads from AGRC (includes interstate highways, state highways, and local major roads) → roads500K_newboundary, buffer by 200 meters → major_roads_200mbuff, convert to raster → majroads_200m, reclassify → rc_mroads200m
 - iii. Add the above two layers using single output map algebra → transitcorr, reclassify so all values above 1 equal 1 → **rc_transcorr**
 - C. #2 Corridor Criteria – Multi-modal connections, including regional and local trails
 - i. Buffer trails by 50 meters → trails_50mbuff
 - ii. Buffer regional trails by 50 meters → reg_trails_50mbuff
 - iii. Merge the above two layers together → all_trails_50mbuff, convert to raster → alltrails_50m, reclassify → **rc_trails50m**
 - D. #3 Corridor Criteria – Canals
 - i. Buffer canals by 50 meters → canals_50mbuff, convert to raster → canals50m, reclassify to 0 and 1 for analysis → **rc_canals50m**
2. Merge together the corridor criteria 1 – 3
 - A. Use single output map algebra to add the above final, reclassified rasters together → cc_corridor
 - B. Use the reclassify tool to change any value above 1 to a 1, and then all nodata values to 0 → **rc_cc_corr**

Final Shapefiles for Agencies and Organizations

Merged Cores	Community_Cores
Merged Hubs	Community_Hubs
Merged Corridors	Community_Corridors

Note – merged files have been dissolved by layer – data is extremely simplified.

Core #1 – Protected lands with community assets	Protected_Cultural_Lands
Core #2 – Historic districts & historic easements	Historic_Districts_Easements
Core #3 – Transit stops	Transit_Stops_400mbuffer
Core #4 – Parks & open space	Open_Space_Areas
Core #5 – Viewsheds & ridgelines	<i>Not mapped</i>
Core #6 – Community sites	Community_Sites

Hub #1 – Other protected lands with community assets	Hub_Other_Protected_Lands
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Corridor #1 – Transit lines & major roads	Transit_Lines_200mbuffer
Corridor #2 – Trails	Trails_50mbuffer
Corridor #3 – Irrigation canals	Canals_50mbuffer