



Broadband Deficiencies Correction Program
Broadband Co-Location Analysis
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Broadband Deficiencies Correction Program (BDCP)

Broadband Co-Location Analysis

Introduction

The University of New Mexico Earth Data Analysis Center (EDAC) provides technical support to the NM Public School Facilities Authority (PSFA) for the BDCP.

Broadband Co-Location Analysis

EDAC performed co-location analysis to identify the public facilities/institutions that are within a certain distance from public schools, and determine broadband co-location opportunities. The institutions include libraries, medical facilities (hospitals, nursing homes, and urgent care), healthcare facilities (school-based health centers and federally qualified health centers), senior centers, and state government facilities. The analysis was performed by conducting a series of analytical overlays using multi-ringed buffers of half-mile and one mile from public school locations. The school data included traditional schools and charter schools. Then EDAC calculated the percentage of public facilities/institutions that were included in the multi-ring buffer polygons.

The co-location analysis involved the following two-step process:

Step 1: Multi-ring buffers were created for all schools with a half-mile and one mile radius.

Step 2: The libraries, medical and healthcare facilities, senior centers, and state government facilities data were overlaid on the buffered polygons and aggregated. Then the percentage values of these that lie within each buffer were calculated. The percentage values exclude the point data from a previous selection, i.e., points accounted for a half-mile radius from a school will not be included for one mile radius buffers.

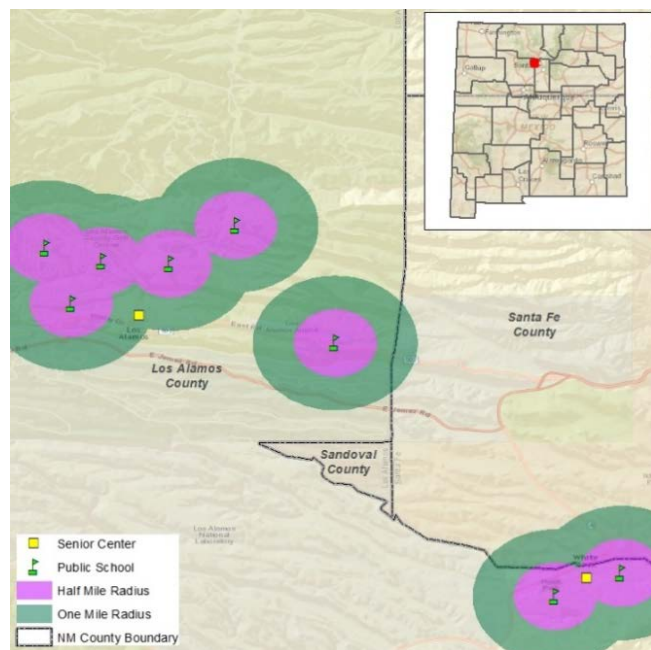


Figure 1: Map displays senior centers located within a half-mile and one mile radius from NM Public School

Results

The co-location analysis results were displayed in the tables below.

Table 1: Percentage of facilities located within half-mile and one mile radius from NM Public School

Distance	Libraries	Medical/ Healthcare Facilities	Senior Centers	Government Agencies
0.5 Mile	47.7	62.3	63.4	64
0.6 – 1 Mile	10.9	23.2	16	24
Total Percentage	58.6	85.5	79.4	88

Table 2: Percentage of facilities located outside half-mile and one mile radius from NM Public School

Libraries	Medical/ Healthcare Facilities	Senior Centers	Government Agencies
41.4	14.5	20.6	12

The co-location analysis was extended to public schools selected by PSFA for Phase I fiber build-up. Sixty-five facilities within 13 school districts were selected for the fiber broadband infrastructure construction. These facilities included schools and administrative buildings. The analysis was performed to generate detailed results, resulting in a list of facilities (from co-location categories) located within half-mile and one mile buffers from the schools. Table 3 shows an example of co-location analysis results for Phase 1 fiber broadband construction.

Table 3: Co-location Analysis Results for Phase 1 Fiber Construction

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Central	Ojo Amarillo Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Central	Kirtland Business Office	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Central	Mesa Elementary	Library: None Health Center: Shiprock Adolescent Treatment Center Medical: None Senior Centers: None Government Offices: None	Library: Dine College Shiprock Campus Library Health Center: None Medical: Northern Navajo Medical Center Senior Centers: None Government Offices: None

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Central	Shiprock High	Library: None Health Center: Shiprock Teen Life Center Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM HSD - Child Support Enforcement Division - County Office 9
Central	Newcomb High	Library: None Health Center: Newcomb High & Middle School- Based Health Center Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Central	Naschitti Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Farmington	Animas Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: Farmington Public Library Health Center: Presbyterian Medical Services - Farmington Community Health Center Dental San Juan Regional Outpatient Diagnostic Center Medical: None Senior Centers: None Government Offices: NM MVD - Farmington
Farmington	Bluffview Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Farmington	CATE	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Farmington	Country Club Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Farmington	Hermosa Middle	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: Farmington Public Library Health Center: Presbyterian Medical Services - Farmington Community Health Center Dental San Juan Regional Outpatient Diagnostic Center Medical: Reliance Urgent Care Senior Centers: None Government Offices: NM HSD - Child Support Enforcement Division - County Office 1
Farmington	Juvenile Services Center	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Farmington	McCormick Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: Farmington Senior Center Government Offices: NM DOH - Public Health Division - North West Region - San Juan County Public Health Office Commodity Supplemental Food Program - Farmington NM HSD - Income Support Division - San Juan County (Farmington Area)
Farmington	Mesa View Middle	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: Presbyterian Medical Services - San Juan County Adolescent Residential Treatment Center Medical: None Senior Centers: None Government Offices: None
Farmington	Piedra Vista HS	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM Small Business Development Center - Farmington SBDC	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Farmington	Tibbetts Middle	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Farmington	Rocinante HS	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM State Land Office - Farmington	Library: San Juan College Library Health Center: San Juan Regional Outpatient Diagnostic Center Medical: None Senior Centers: None Government Offices: NM MVD - Farmington NM State Land Office - Farmington NM HSD - Child Support Enforcement Division - County Office 1 NM Environment Department - District 2 - Farmington NM Small Business Development Center - Farmington SBDC
Farmington	Heights Middle School	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM State Land Office - Farmington	Library: San Juan College Library Health Center: San Juan Regional Outpatient Diagnostic Center Medical: None Senior Centers: None Government Offices: NM MVD - Farmington NM State Land Office - Farmington NM HSD - Child Support Enforcement Division - County Office 1 NM Environment Department - District 2 - Farmington NM Small Business Development Center - Farmington SBDC

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Farmington	Mesa Verde Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM State Land Office - Farmington	Library: San Juan College Library Health Center: San Juan Regional Outpatient Diagnostic Center Medical: None Senior Centers: None Government Offices: NM State Land Office - Farmington NM HSD - Child Support Enforcement Division - County Office 1 NM Environment Department - District 2 - Farmington NM Small Business Development Center - Farmington SBDC
Gallup-McKinley	David Skeet Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Ramah Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Ramah Mid/High	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Tse Yi Gai High	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Chee Dodge Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Chief Manuelito Mid	Library: None Health Center: Gallup High School - Gallup Teen Health Center Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Gallup-McKinley	Education Development Ctr	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Gallup Central High	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Gallup High	Library: None Health Center: Gallup High School - Gallup Teen Health Center Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Gallup Bus Barn	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Gallup Middle	Library: None Health Center: None Medical: None Senior Centers: Gallup Senior Center Government Offices: None	Library: Octavia Fellin Public Children's Library Octavia Fellin Public Library Health Center: None Medical: Villa Guadalupe Senior Centers: None Government Offices: NM Small Business Development Center - Gallup SBDC NM Department of Workforce Solutions - Gallup
Gallup-McKinley	Indian Hills Elementary	Library: None Health Center: None Medical: Red Rocks Care Center Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM HSD - Income Support Division - McKinley County (Gallup Area) NM DOH - Developmental Disabilities Supports Division - Northwest Regional Office

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Gallup-McKinley	Jefferson Elementary	Library: None Health Center: Presbyterian Medical Services - Western NM Medical Group - Behavioral Health - Gallup Medical: Villa Guadalupe Senior Centers: None Government Offices: NM MVD - Gallup NM Public Defender Department - Gallup	Library: None Health Center: None Medical: None Senior Centers: Gallup Senior Center Government Offices: None
Gallup-McKinley	Kennedy Middle	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM Public Defender Department - Gallup	Library: None Health Center: Presbyterian Medical Services - Western NM Medical Group - Behavioral Health - Gallup Medical: Villa Guadalupe Senior Centers: Gallup Senior Center Government Offices: NM MVD - Gallup
Gallup-McKinley	Lincoln Middle	Library: Octavia Fellin Public Children's Library Health Center: None Medical: None Senior Centers: None Government Offices: NM Department of Workforce Solutions - Gallup	Library: Octavia Fellin Public Library Health Center: Presbyterian Medical Services - Western NM Medical Group - Gallup Medical: None Senior Centers: Gallup Senior Center Government Offices: NM Small Business Development Center - Gallup SBDC
Gallup-McKinley	Red Rock Elementary	Library: None Health Center: None Medical: None Senior Centers: Gallup Senior Center Government Offices: None	Library: Octavia Fellin Public Library Health Center: None Medical: Villa Guadalupe Gallup Indian Medical Center Rehoboth McKinley Christian Health Care Services McKinley Manor Care And Rehabilitation Center Senior Centers: Government Offices: NM MVD - Gallup NM DOH - Public Health Division - North West Region - McKinley County Public Health Office

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Gallup-McKinley	Rocky View Elementary	Library: None Health Center: None Medical: None Senior Centers: Government Offices: NM DOH - Developmental Disabilities Supports Division - Northwest Regional Office NM HSD - Income Support Division - McKinley County (Gallup Area)	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM Public Defender Department - Gallup
Gallup-McKinley	Stagecoach Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Thoreau Elementary	Library: None Health Center: Presbyterian Medical Services - Western NM Medical Group - Thoreau Thoreau HS School-Based Health Center Medical: None Senior Centers:Thoreau Senior Center Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Thoreau High	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Thoreau Middle	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center:Thoreau HS School-Based Health Center Presbyterian Medical Services - Western NM Medical Group - Thoreau Medical: None Senior Centers: None Government Offices: None
Gallup-McKinley	Turpen Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Gallup-McKinley	Washington Elementary	Library: None Health Center: Presbyterian Medical Services - Western NM Medical Group - Gallup Medical: None Senior Centers: Gallup Senior Center Government Offices: NM Department of Workforce Solutions - Gallup	Library: Octavia Fellin Public Children's Library Octavia Fellin Public Library Health Center: None Medical: None Senior Centers: None Government Offices: NM Environment Department - District 1 - Gallup NM Small Business Development Center - Gallup SBDC
Bloomfield	Administration Bldg	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Bloomfield	Blanco Elementary	Library: None Health Center: None Medical: None Senior Centers: Blanco Senior Center Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Socorro	Midway Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Socorro	San Antonio Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Cobre	San Lorenzo Elementary	Library: None Health Center: None Medical: None Senior Centers: Mimbres Senior Center Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: Hidalgo Medical Services - Mimbres Valley Clinic

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Bernalillo	Bernalillo Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: NM Small Business Development Center - Sandoval County SBDC - Bernalillo	Library: Town of Bernalillo Public Library Health Center: Bernalillo High School - Spartan Wellness Center El Pueblo Health Services Medical: None Senior Centers: Bernalillo Senior Center Government Offices: NM MVD - Bernalillo
Bernalillo	Bernalillo Middle	Library: None Health Center: None Medical: None Senior Centers: Bernalillo Senior Center Government Offices: NM Small Business Development Center - Sandoval County SBDC - Bernalillo	Library: Town of Bernalillo Public Library Health Center: El Pueblo Health Services Bernalillo High School - Spartan Wellness Center Medical: None Senior Centers: None Government Offices: NM MVD - Bernalillo
Bernalillo	WD Carroll Elementary	Library: None Health Center: None Medical: None Senior Centers: Bernalillo Senior Center Government Offices: NM Small Business Development Center - Sandoval County SBDC - Bernalillo	Library: Town of Bernalillo Public Library Health Center: Bernalillo High School - Spartan Wellness Center El Pueblo Health Services Medical: None Senior Centers: None Government Offices: NM HSD - Income Support Division - Combined Application Process "CAP" Unit NM MVD - Bernalillo
Bernalillo	Placitas Elementary	Library: None Health Center: None Medical: None Senior Centers: Placitas Senior Center Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Bernalillo	Santo Domingo Elem/Middle	Library: Santo Domingo Pueblo Library Health Center: None Medical: None Senior Centers: Santo Domingo Pueblo Senior Center Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Bernalillo	Algodones Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Bernalillo	Cochiti Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
West Las Vegas	Valley School	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Clovis	Ranchvale Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Clovis	Gattis Middle	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Clovis	Yucca Middle	Library: None Health Center: La Casa School Based Dental Clinic - Parkview Elementary School La Casa Family Health Center - Clovis School Base Clinic Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: La Casa School Based Dental Clinic - Marshall Middle School Medical: Clovis Healthcare And Rehabilitation Center Senior Centers: Clovis Senior Center Government Offices: NM MVD - Clovis
Jal	Jal Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: Woolworth Community Library Annex Woolworth Community Library Health Center: None Medical: None Senior Centers: Jal Senior Center Government Offices: NM MVD - Jal

School District	Name of School/Building	Half-Mile Radius	One Mile Radius
Jal	Jal High	Library: Woolworth Community Library Annex Woolworth Community Library Health Center: None Medical: None Senior Centers: Jal Senior Center Government Offices: NM MVD - Jal	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Jal	Jal Middle	Library: Woolworth Community Library Annex Woolworth Community Library Health Center: None Medical: None Senior Centers: Jal Senior Center Government Offices: NM MVD - Jal	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Hondo	Hondo Elementary	Library: None Health Center: La Casa Family Health Center - Hondo School Based Clinic Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Hondo	Hondo High	Library: None Health Center: La Casa Family Health Center - Hondo School Based Clinic Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Deming	Columbus Elementary	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None
Gadsden	Alta Vista Early College High	Library: None Health Center: None Medical: None Senior Centers: None Government Offices: None	Library: None Health Center: Gadsden High School-Based Health Center Medical: None Senior Centers: None Government Offices: None