Texas Middle-Mile Proximity Analysis

Overview

This analysis evaluates existing broadband coverage for locations within 1, 5, and 10 miles of proposed Texas Middle Mile (TMM) Program network routes. The analysis seeks to quantify what percentage of nearby locations already have access to terrestrial broadband service meeting the 100/20 Mbps threshold. Only 7 of the 14 project applications provided GIS data which could support such an analysis (the other 7 provided PDFs).

Results

98.0% of locations within 1 mile of the proposed network routes already have access to terrestrial broadband at 100/20 Mbps or faster. This suggests the routes primarily traverse well-served corridors. This finding is consistent even when the distance from the route is increased to 5 miles (98.1%) or 10 miles (98.1%).

Metric	1 Mile	5 Mile	10 Mile
H3 hexes	11,891	50,529	95,473
Total broadband serviceable locations	461,863	1,445,604	2,404,538
Locations with 100/20 terrestrial service	452,609	1,418,026	2,359,398
Locations without 100/20 terrestrial service	9,254	27,578	45,140
Coverage rate	**98.0%**	**98.1%**	**98.1%**

Coverage by Distance from Route

1 Mile

Route	Total	Served	Rate
IA-0000002339 Map - Zayo Group LLC	36,452	35,734	98.0%
IA-0000002485 Map - CR Telco	4,307	4,199	97.5%
IA-0000002503 Map - Zayo Group LLC	8,051	7,818	97.1%
IA-0000002545 Map - Zayo Group LLC	132,201	131,686	99.6%
IA-0000002546 Map - Zayo Group LLC	23,941	23,602	98.6%
IA-0000002581 Map - X-Lumin	183,412	182,384	99.4%
IA-0000002582 Map - X-Lumin	73,499	67,186	91.4%

5 Mile

Route	Total	Served	Rate
IA-0000002339 Map - Zayo Group LLC	161,506	159,324	98.6%
IA-0000002485 Map - CR Telco	10,968	10,655	97.1%
IA-0000002503 Map - Zayo Group LLC	56,024	54,978	98.1%
IA-0000002545 Map - Zayo Group LLC	558,920	555,627	99.4%
IA-0000002546 Map - Zayo Group LLC	107,621	106,416	98.9%
IA-0000002581 Map - X-Lumin	405,902	403,799	99.5%
IA-0000002582 Map - X-Lumin	144,663	127,227	87.9%

10 Mile

Route	Total	Served	Rate
IA-0000002339 Map - Zayo Group LLC	283,208	279,259	98.6%
IA-0000002485 Map - CR Telco	45,922	45,303	98.7%
IA-0000002503 Map - Zayo Group LLC	73,299	71,127	97.0%
IA-0000002545 Map - Zayo Group LLC	1,097,878	1,090,705	99.3%
IA-0000002546 Map - Zayo Group LLC	230,393	227,233	98.6%
IA-0000002581 Map - X-Lumin	490,128	487,511	99.5%
IA-0000002582 Map - X-Lumin	183,710	158,260	86.1%

Network Route Map

Source: Composite generated from KMZ route files provided by applicants

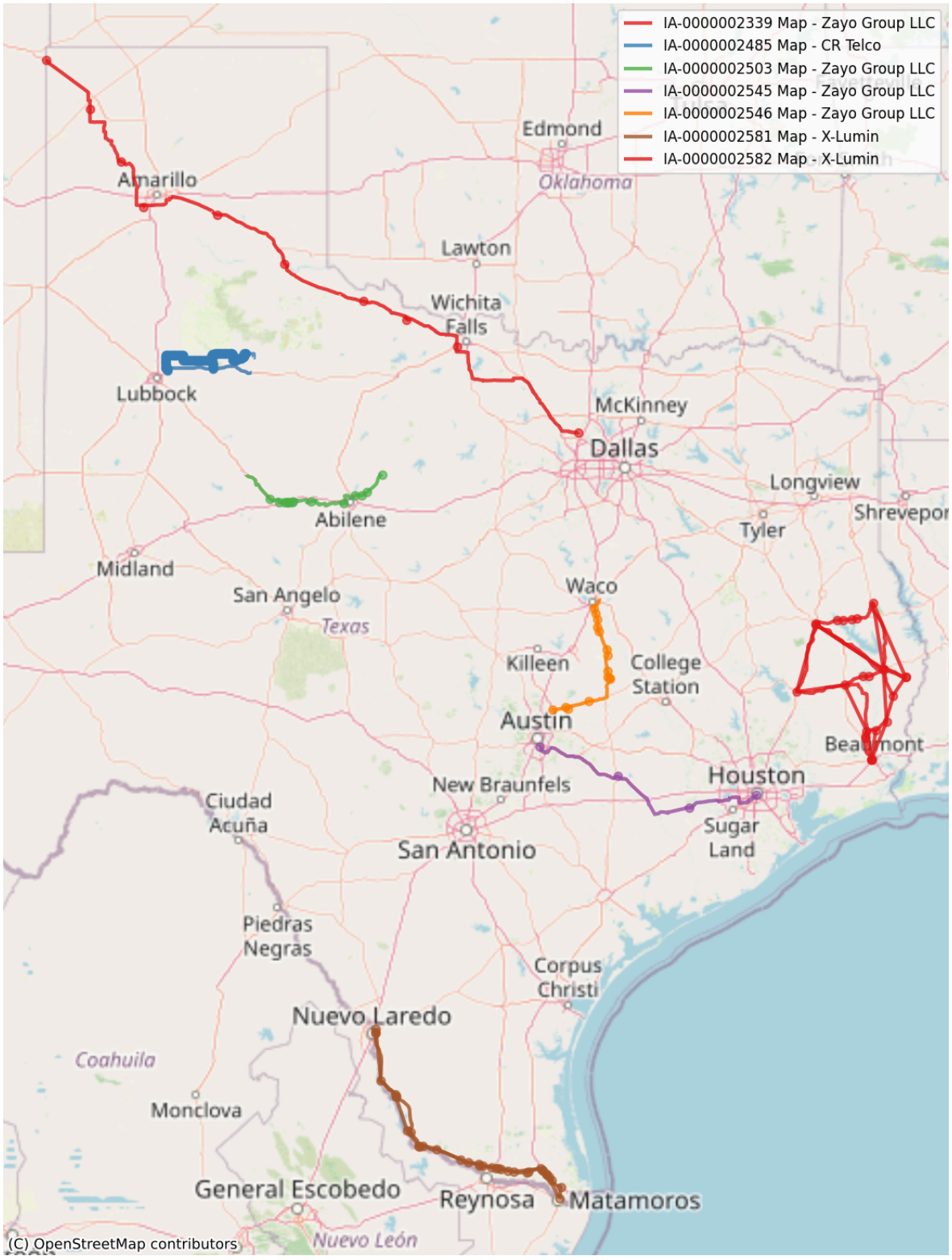

Figure 1: Proposed network routes from 7 applications overlaid on base map. Each color represents a different route/applicant.

Methodology

Data Sources

Source	Description
Fiber Routes	7 KMZ files containing LineString geometries of proposed network paths
BDC Database	FCC Broadband Data Collection, as of 2025-06-30
H3 Index	Uber H3 hierarchical hexagonal grid at resolution 8

Geographic Analysis

1. **Load network routes** from KMZ files (7 files, 87 LineString features total)
2. **Buffer routes by 1, 5, and 10 miles** using Texas Centric Mapping System projection for distance calculation
3. **Identify H3 hexes** at resolution 8 (0.74 km² per hex) that fall within the buffer zones
4. **Query BDC** for all broadband serviceable locations (BSLs) in those hexes

Coverage Definition

A location is considered "served" with terrestrial 100/20 Mbps if it has at least one broadband offering meeting **all** of the following criteria:

Criterion	Requirement
Download Speed	≥ 100 Mbps
Upload Speed	≥ 20 Mbps
Technology	Terrestrial only (excludes satellite)
Latency	Low latency < 100ms

Route Details

Route File	Features
IA-0000002339 Map - Zayo Group LLC	19
IA-0000002485 Map - CR Telco	175
IA-0000002503 Map - Zayo Group LLC	17
IA-0000002545 Map - Zayo Group LLC	11
IA-0000002546 Map - Zayo Group LLC	18
IA-0000002581 Map - X-Lumin	63
IA-0000002582 Map - X-Lumin	52
Total	**355**

Note: 87 of these features are LineStrings used for the buffer analysis; the remainder are Points or other geometry types.