

Broadband Competition in the Rochester Region: Reality vs Federal Statistics

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An In-Depth Look at Rochester, Minn.

In this policy brief, we examine broadband competition in and around Rochester, Minnesota. We also explore how intelligent people can be easily misled by federal broadband statistics.

Rochester is a city of 114,000 in southeastern Minnesota and the third largest city in the state. It is home to the Mayo Clinic, and the healthcare industry is a large part of the city's economy. Broadband, which the Federal Communications Commission (FCC) defines as minimum speeds of 25 Mbps download and 3 Mbps upload, is largely available within Rochester itself.¹ The surrounding rural communities, however, have few options for fast, reliable connectivity. Even within the city, the vast majority of the community only has access to high-speed broadband via the cable company Charter Spectrum. (Our national report "Profiles of Monopoly: Big Cable and Telecom" explores this theme across the U.S.)²

A casual look at Rochester in BroadbandNow.com, a reputable site for exploring broadband data, suggests Rochester has 12 residential providers. Looking more closely, 2 providers use satellite, a technology that few use if they have cable or DSL available. At least four providers serve less than 4 percent of the city. Digging even deeper into the data, at least one fixed wireless provider seems to have overstated its speeds by a factor of 24.³

¹ H. Trostle, "Why 25 Mbps / 3 Mbps is a reasonable minimum standard in 2018," MuniNetworks.org, <https://muninetworks.org/content/why-25-mbps-3-mbps-reasonable-minimum-standard-2018> .

² H. Trostle and Christopher Mitchell, "Profiles of Monopoly: Big Cable and Telecom," ILSR.org, <https://ilsr.org/monopoly-networks/> .

³ "Rochester," BroadbandNow.com, (Accessed July 2018) <https://broadbandnow.com/Minnesota/Rochester> .

These figures describe a vastly different reality than the one acknowledged by local elected officials. In 2015, City Council member Ed Hruska claimed, "We have 19 local broadband providers and, of those, we have two cable providers, six DSL providers, four fiber providers, three fixed wireless providers and four mobile providers."⁴ Our analysis shows that broadband competition in Rochester is actually far more limited. This is especially true since mobile providers should not be considered competition to fixed networks. ILSR strongly agrees with the long-standing conclusion of the FCC under both Republican and Democratic Chairs that mobile Internet access is not a substitute for home fixed access.⁵

Our results confirm what a bipartisan group of U.S. Senators has expressed concern over: federal broadband data is deeply flawed.⁶ The following maps suffer from a bias that overstates coverage and competition.⁷ Even if they were accurate, the level of competition would still be woefully inadequate for a community trying to thrive in the digital age.

⁴ Tom Steward, "City wary of Internet company's 'free' broadband report," Minnesota Watchdog, (February 15, 2015) https://www.watchdog.org/minnesota/city-wary-of-internet-company-s-free-broadband-report/article_98887082-7dd5-5650-b9dd-0789b778b329.html

⁵ Lisa Gonzales, "FCC Ends Speculation On Broadband Speeds, Mobile Internet Access," MuniNetworks.org, <https://muninetworks.org/content/fcc-ends-speculation-broadband-speeds-mobile-internet-access> .

⁶ Phillip Dampier, "Senators Blast FCC's Inaccurate Wireless Broadband Coverage Map," Stop the Cap, (March 15, 2018) <http://stopthecap.com/2018/03/15/senators-blast-fccs-inaccurate-wireless-broadband-coverage-map/>

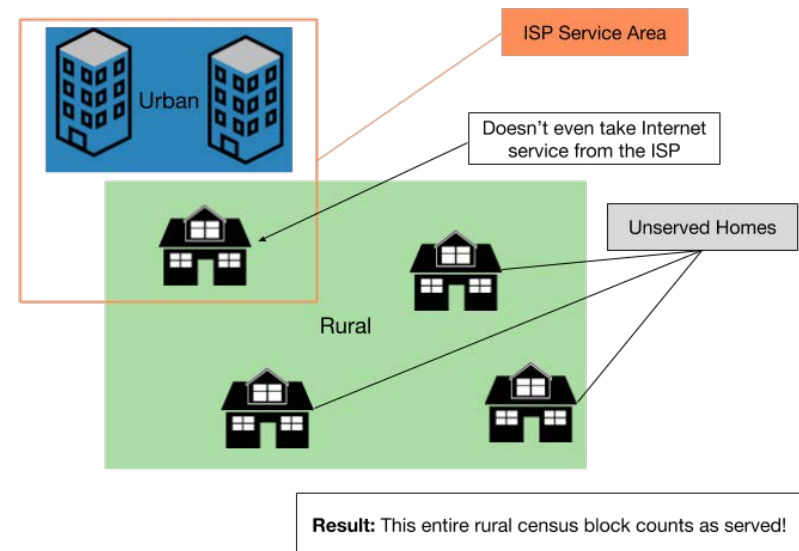
⁷ For a discussion of how flawed FCC broadband data impacts our analysis, go to pages 2 and 4.

The Data: FCC Form 477

The information in this policy brief is based on the FCC Form 477. Internet Service Providers (ISPs) are required to report where they offer Internet service and their maximum advertised speeds in each census block. Census blocks are the smallest unit of measurement in the U.S. Census, and they do not represent a consistent amount of land area or population. Rural census blocks tend to be larger than urban census blocks. If an ISP can provide Internet service to at least one premise in a census block, the FCC marks that entire census block as having access to Internet service at the speed the ISP claims is available. Two service providers may be present in a block without overlapping coverage, but will nonetheless appear to be competing in this data set. These remarkable flaws have led to an overstatement of broadband availability and competition across the nation.

The overwhelming failure of broadband mapping results from several factors. Large, de facto monopoly providers have incentives to overstate their coverage and territory to hide the unreliable and slow nature of their service in many communities. Small providers often have trouble completing the FCC Form 477. This form requires 39 pages of instructions on how to properly complete it. Providers are supposed to submit it every 6 months, but many small providers find it confusing and frustrating- taking too much time to produce data that has dubious value given the flaws. Larger providers have plenty of staff to handle the form and seem to benefit the most from its flaws, as this data is often used to determine whether government programs should invest additional funds into an area, often by a competitive grant program. Areas that appear to be well covered will not result in more investment, leaving the incumbent providers without fear of competition.

Diagram of FCC Broadband Data Overstatement



Designed by H. Trostle, Research Associate,
Institute for Local Self-Reliance. July 2018.

Broadband Competition & Population

About 215,000 people live within a 30-mile radius of Rochester’s city center. According to the FCC data, everyone has access to a broadband provider. At least 4,000 people near Rochester, in fact, do not have broadband access. While performing this analysis, we found that fixed wireless provider LTD Broadband had significantly overstated its coverage, so we excluded it from the report.

FCC Data Excluding LTD Broadband

Number of Broadband Providers	Potential Population with Access Through Providers
0 (i.e., broadband not available)	~4,000
1	~60,000
2	~86,000
3	~63,000
4	~2,000

About 42,000 people do not have access to a wireline broadband provider. The remaining 173,000 people have access to a wireline broadband provider and may even enjoy wireline broadband competition.

FCC Data Excluding Fixed Wireless

Number of Wireline Broadband Providers	Potential Population with Access Through Providers
0 (i.e., broadband not available)	~42,000
1	~77,000
2	~92,000
3	~4,000

For reference, the 11 wireline broadband providers within 30 miles of Rochester’s city center are:

1. CenturyLink
2. Charter Communications
3. Clarity Telecom
4. Hiawatha Broadband Communications (HBC)
5. Jaguar Communications
6. Kasson & Mantorville Telephone Company (KMTelecom)
7. Mediacom Communications
8. Midcontinent Communications (Midco)
9. New Ulm Telecom
10. Nextera
11. Rural Communications Holding Corporation (Blue Earth Valley)

We also looked at the availability of download speeds greater than or equal to 100 Mbps because Minnesota has two broadband goals:

1. By 2022, all Minnesota homes and businesses should have access to 25 Mbps download / 3 Mbps upload.
2. By 2026, all Minnesota homes and businesses should have access to 100 Mbps download / 20 Mbps upload.

Even considering only the download speed criteria, many areas around Rochester do not reach the second goal.

FCC Data Access to 100+ Mbps Download (excluding LTD Broadband)

Number of Broadband Providers of ≥100 Mbps	Potential Population with Access Through Providers
0 (i.e., broadband not available)	~46,000
1	~101,000
2	~65,000
3	~3,000

Broadband Competition & Population (cont.)

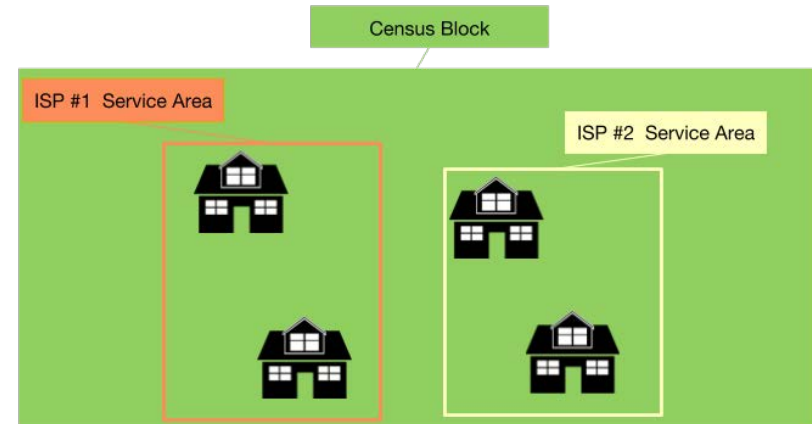
Within Rochester, about 19,000 people only have access to broadband services through Charter Communications. For more than 60 percent of the city, or approximately 65,000 people, Charter is the sole provider of speeds greater than or equal to 100 Mbps.

FCC Data Charter Monopoly

Potential Population in Rochester with Charter as Sole Provider of Broadband	Potential Population in Rochester with Charter as Sole Provider of ≥ 100 Mbps
~19,000	~65,000

These maps almost certainly overstate availability and competition. The data is aggregated at the census block level. Although several Internet service providers may offer service in the same census block, their service areas may not overlap for individual addresses, leading to an overstatement of competition. For instance, if one building has a single monopoly provider and a second building has a different single monopoly provider, the data incorrectly suggests both buildings have a choice of two providers because there are two providers able to serve addresses within the census block. Similarly, a neighborhood may only have broadband available from the cable company but a specialized ISP may serve a small business in the census block. The data will report this block as having competition. Thus, the data does not accurately show which ISPs are available to individuals, and the number of people with a choice in ISP is actually lower.

Diagram FCC Broadband Data Overstatement of Competition



Each address has only one option for service

Result: This entire census block is marked as having competition!

Designed by H. Trostle, Research Associate, Institute for Local Self-Reliance. July 2018.

The Maps

We present eight maps, exploring broadband access and competition within the 30 miles from Rochester's center.

We excluded the fixed wireless provider LTD Broadband from our analysis because it does not appear to actually offer broadband service as defined by the FCC. LTD Broadband had submitted to the FCC that its maximum advertised speed was 244 Mbps, but the maximum advertised speed on its website is 10 Mbps (as of July 2018). A phone call confirmed that their services are much closer to 10 Mbps than 244 Mbps.

We excluded all fixed wireless service from the second and fifth maps because the technology, though often superior to DSL, is not as reliable as fixed wired services in most areas and usually cannot serve the same volume of customers in a neighborhood. Wireless service is often unable to guarantee coverage of all homes in a region due to variations in topology, tree cover, and building materials. Because of this, fixed wireless providers may not be able to provide the maximum advertised speed to everyone within their service areas. The reviews for the fixed wireless providers near Rochester suggest that some of the services are unreliable, though we have also heard quite positive reviews on HBC's wireless service from subscribers in the RS Fiber Cooperative territory.⁷

We limited the third and sixth maps to providers offering at least 100 Mbps download to reflect state goals set for 2026.

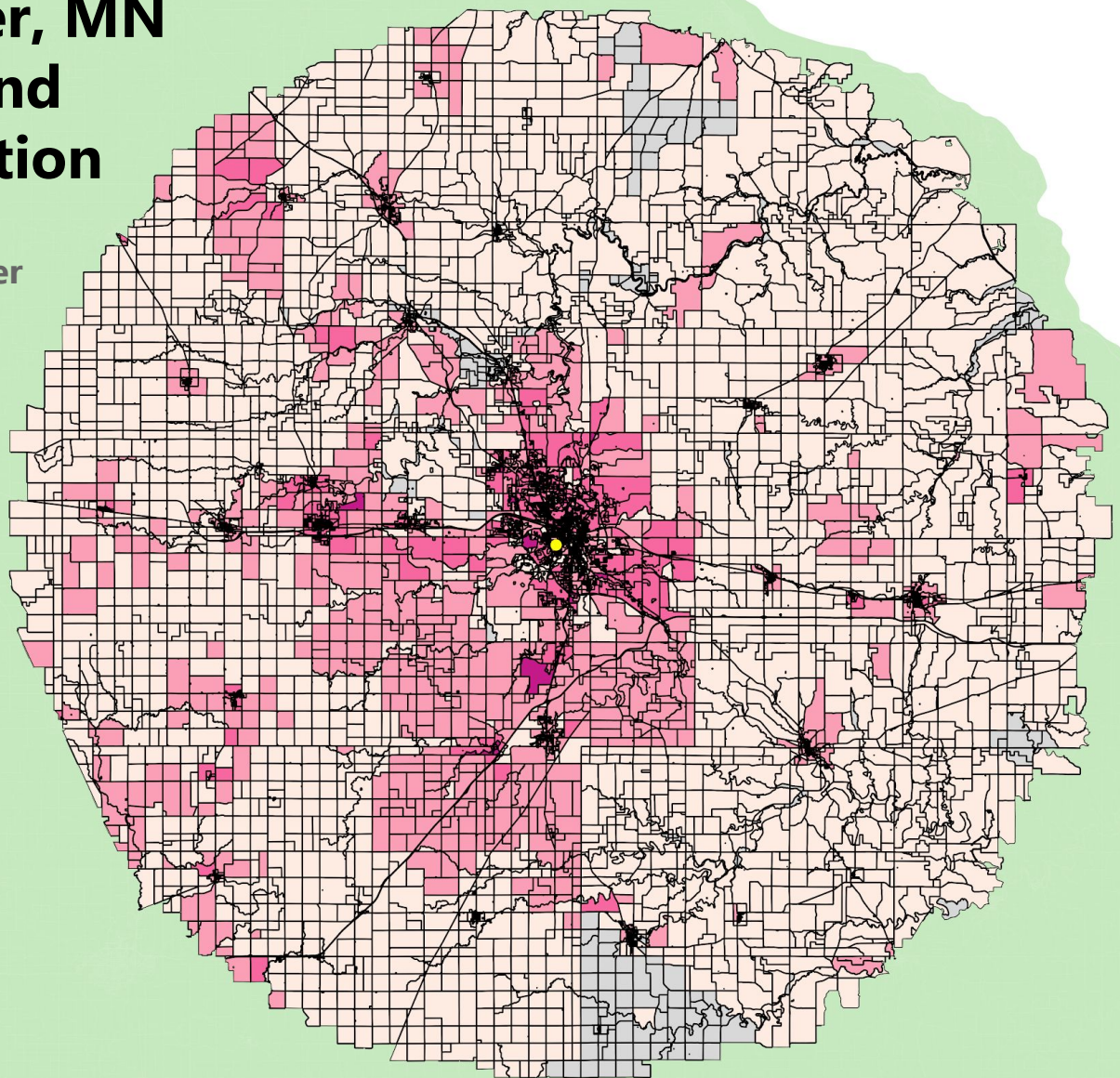
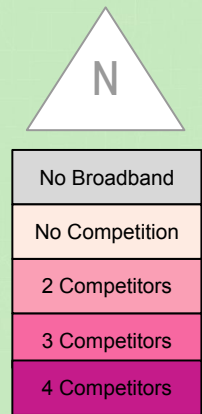
In the final two maps, we show where within Rochester Charter Communications is the sole provider of 25 Mbps and 100 Mbps download speeds.

⁷ We were unable to separate Hiawatha Broadband Communications customer wireline and fixed wireless reviews on Yelp or Facebook. LTD Broadband, Facebook Page Reviews, (Accessed July 2018) https://www.facebook.com/pg/ltdbroadband/reviews/ref=page_internal.

Radiolink Internet, Yelp Reviews, (Accessed July 2018) <https://www.yelp.com/biz/radio-link-internet-ellendale>.

Rochester, MN Broadband Competition

30 Mile Radius
Area by Number
of Competitors

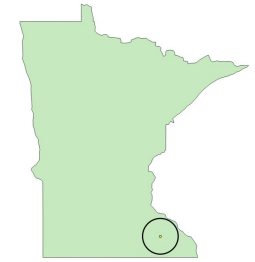
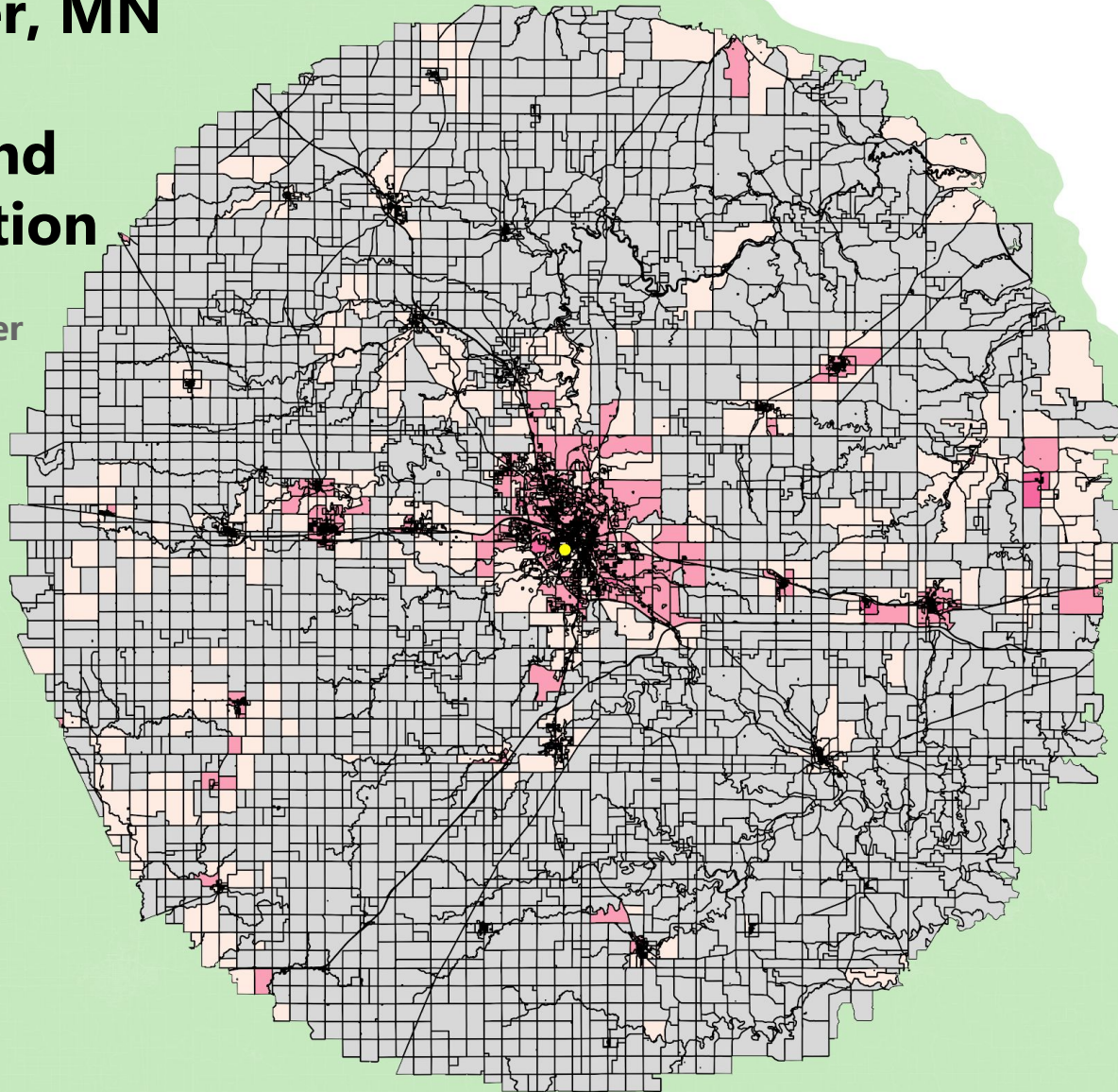
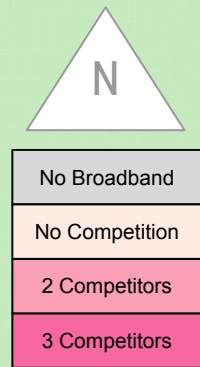


Sources: FCC Form 477 Dec 2016 v1 Data; US Census Population 2010
Data Design: Christopher Barich, MPP & H. Trostle; Community Broadband Networks Initiative,
Institute for Local Self-Reliance



Rochester, MN Wireline Broadband Competition

30 Mile Radius
Area by Number
of Wireline
Competitors

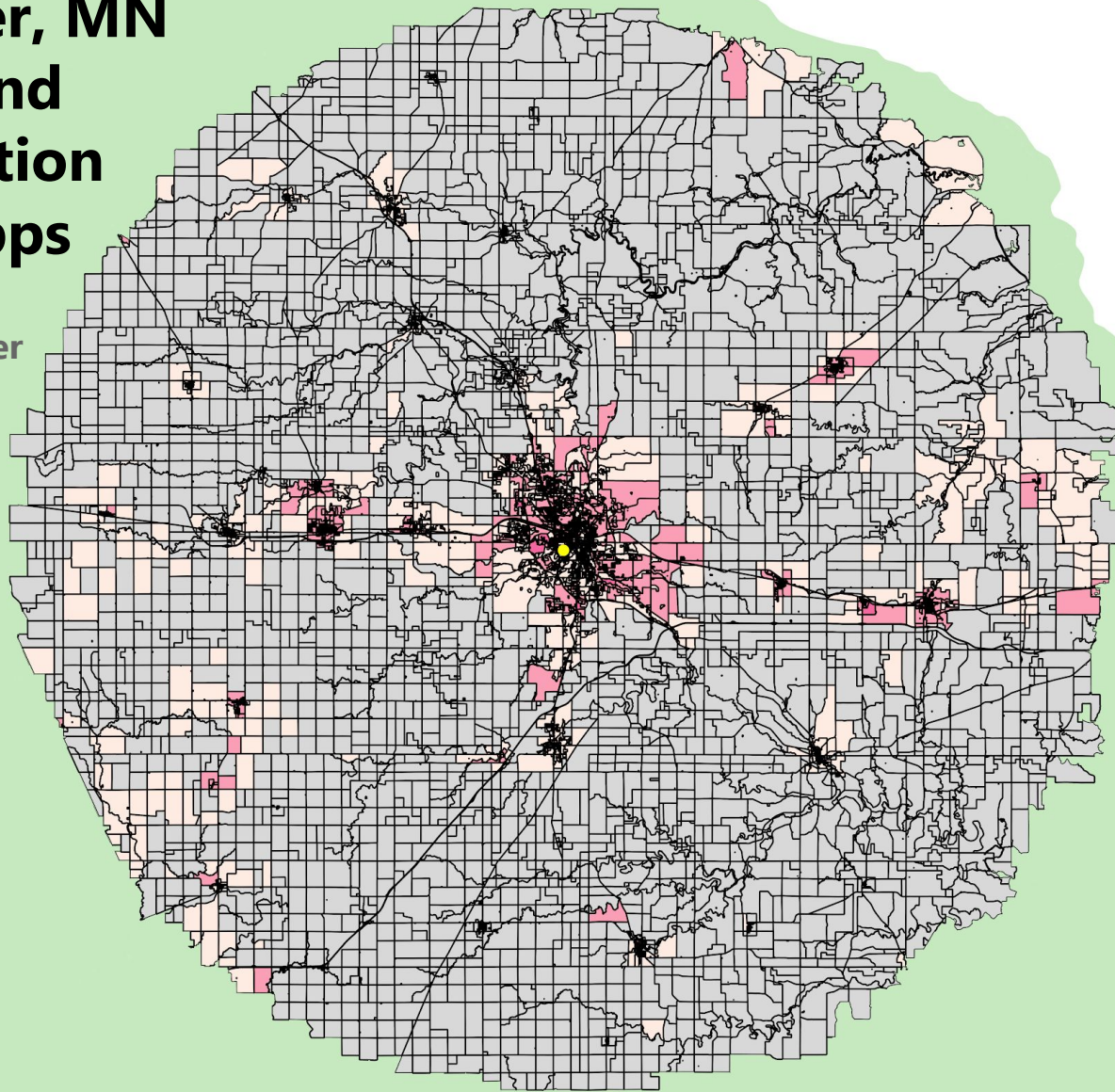
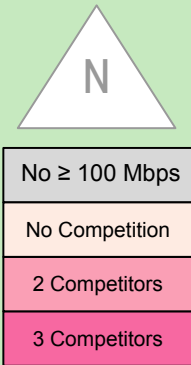


Sources: FCC Form 477 Dec 2016 v1 Data; US Census Population 2010
Data Design: Christopher Barich, MPP & H. Trostle; Community Broadband Networks Initiative,
Institute for Local Self-Reliance



Rochester, MN Broadband Competition ≥ 100 Mbps

30 Mile Radius
Area by Number
of Competitors
Offering
 ≥ 100 Mbps



Sources: FCC Form 477 Dec 2016 v1 Data; US Census Population 2010
Data Design: Christopher Barich, MPP & H. Trostle; Community Broadband Networks Initiative,
Institute for Local Self-Reliance

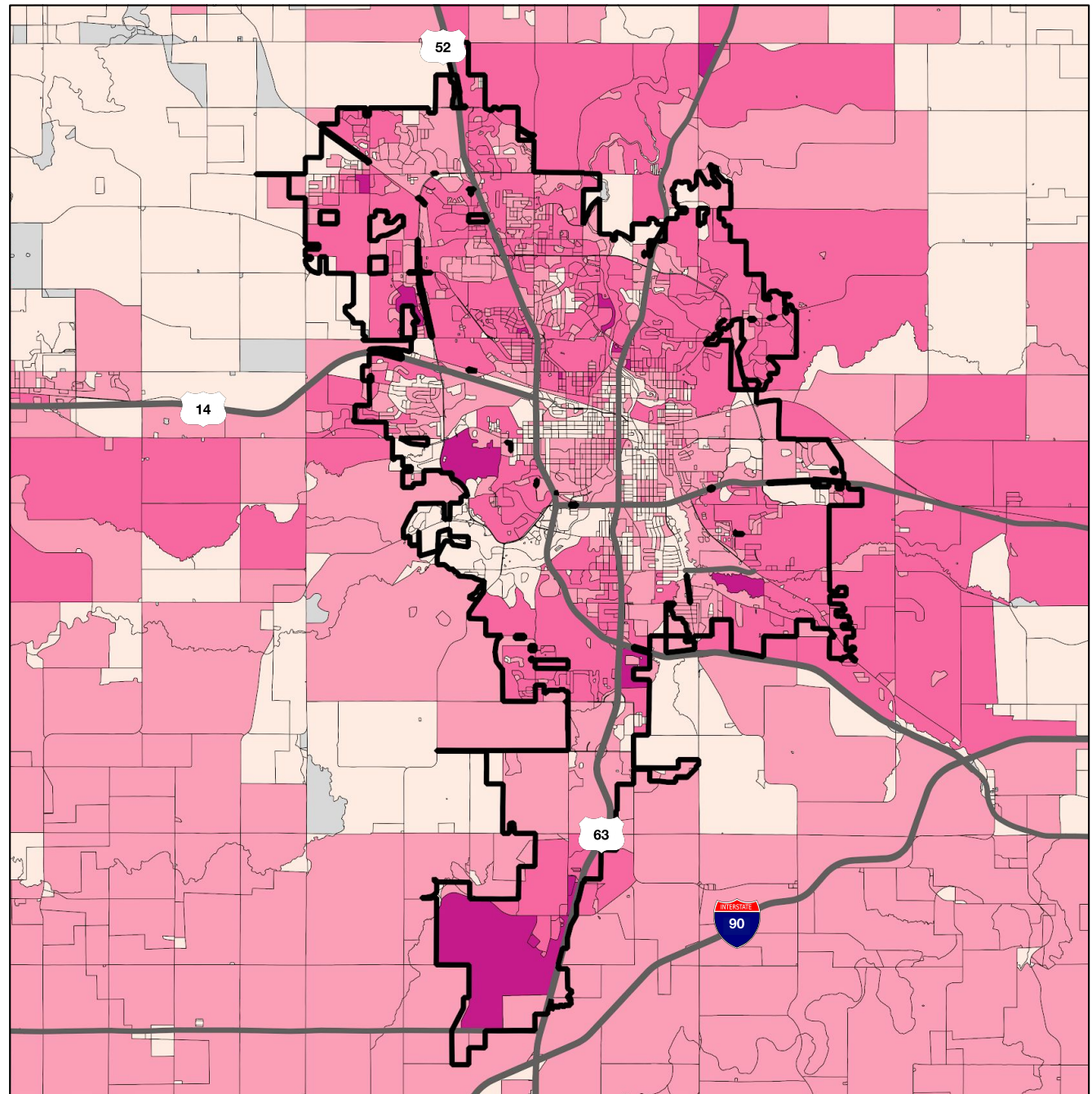


Rochester, MN Broadband Competition

City Boundaries of
Rochester by Number of
Competitors



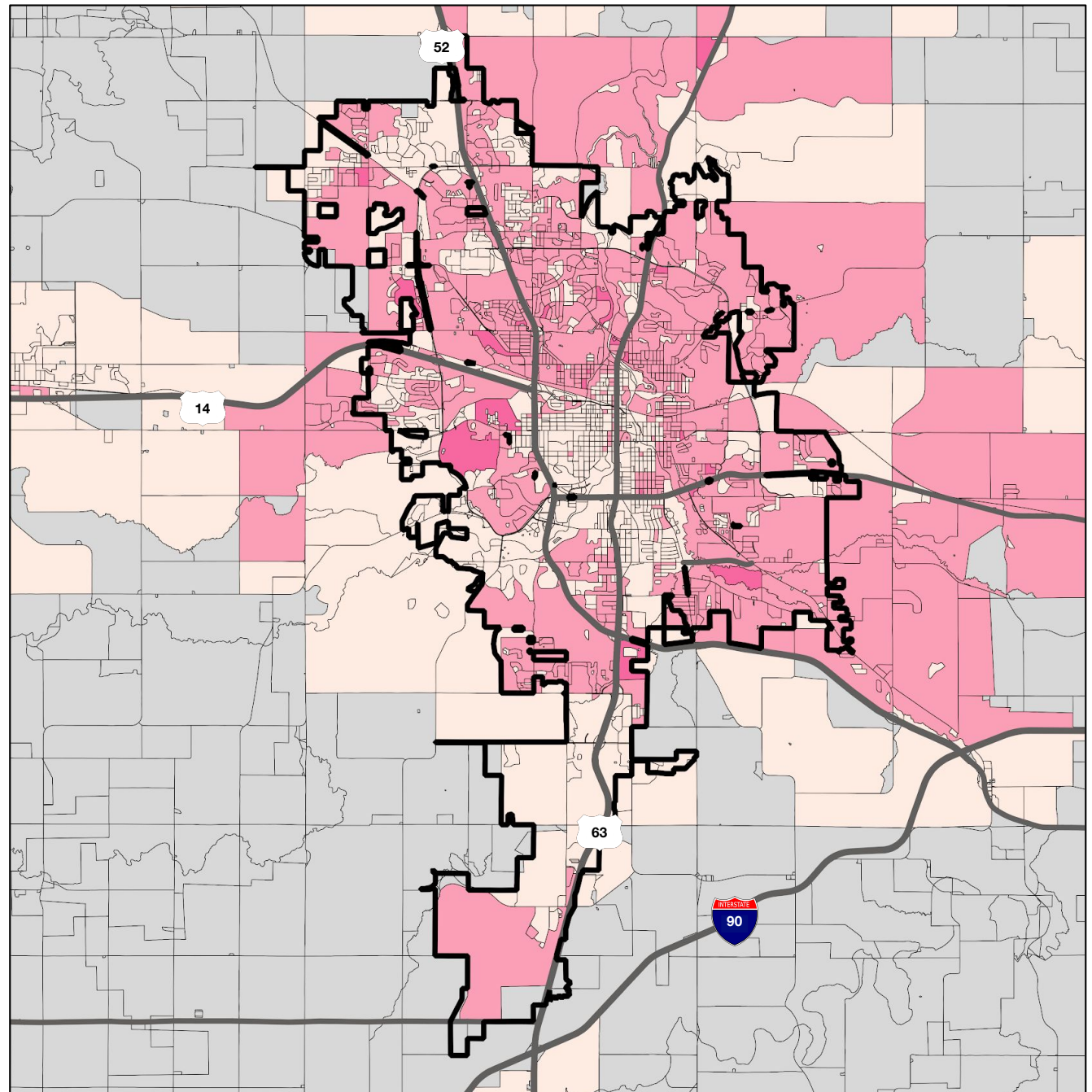
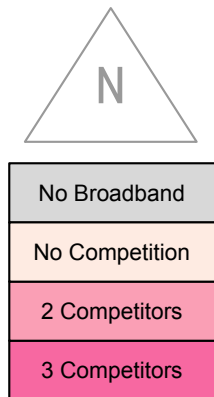
No Broadband
No Competition
2 Competitors
3 Competitors
4 Competitors



Sources: FCC Form 477 Dec 2016 v1 Data; US Census Population 2010
Data Design: Christopher Barich, MPP & H. Trostle; Community Broadband Networks Initiative,
Institute for Local Self-Reliance

Rochester, MN Wireline Broadband Competition

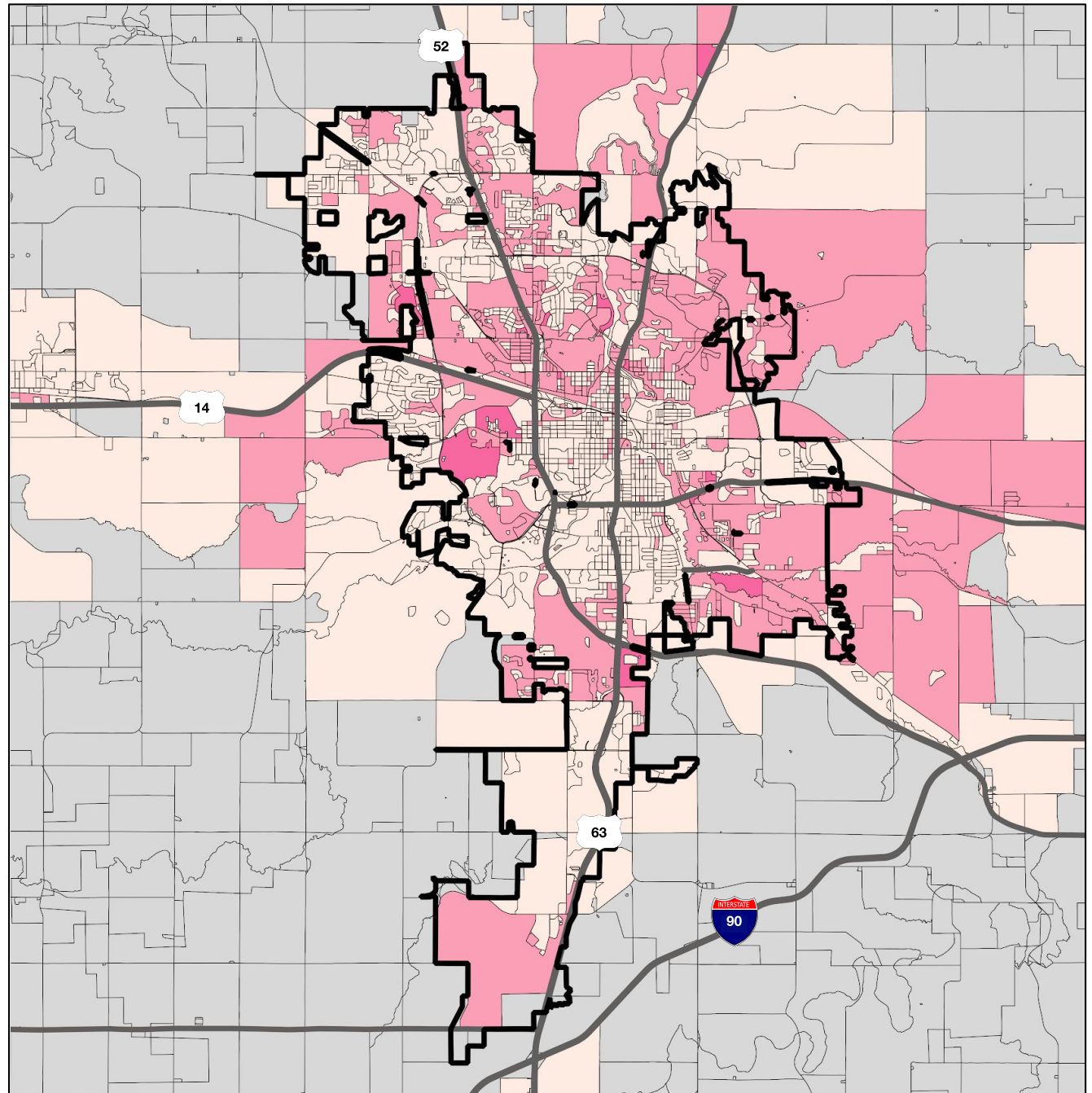
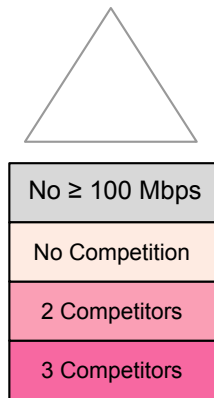
City Boundaries of
Rochester by Number of
Wireline Competitors



Sources: FCC Form 477 Dec 2016 v1 Data; US Census Population 2010
Data Design: Christopher Barich, MPP & H. Trostle; Community Broadband Networks Initiative,
Institute for Local Self-Reliance

Rochester, MN Broadband Competition ≥ 100 Mbps

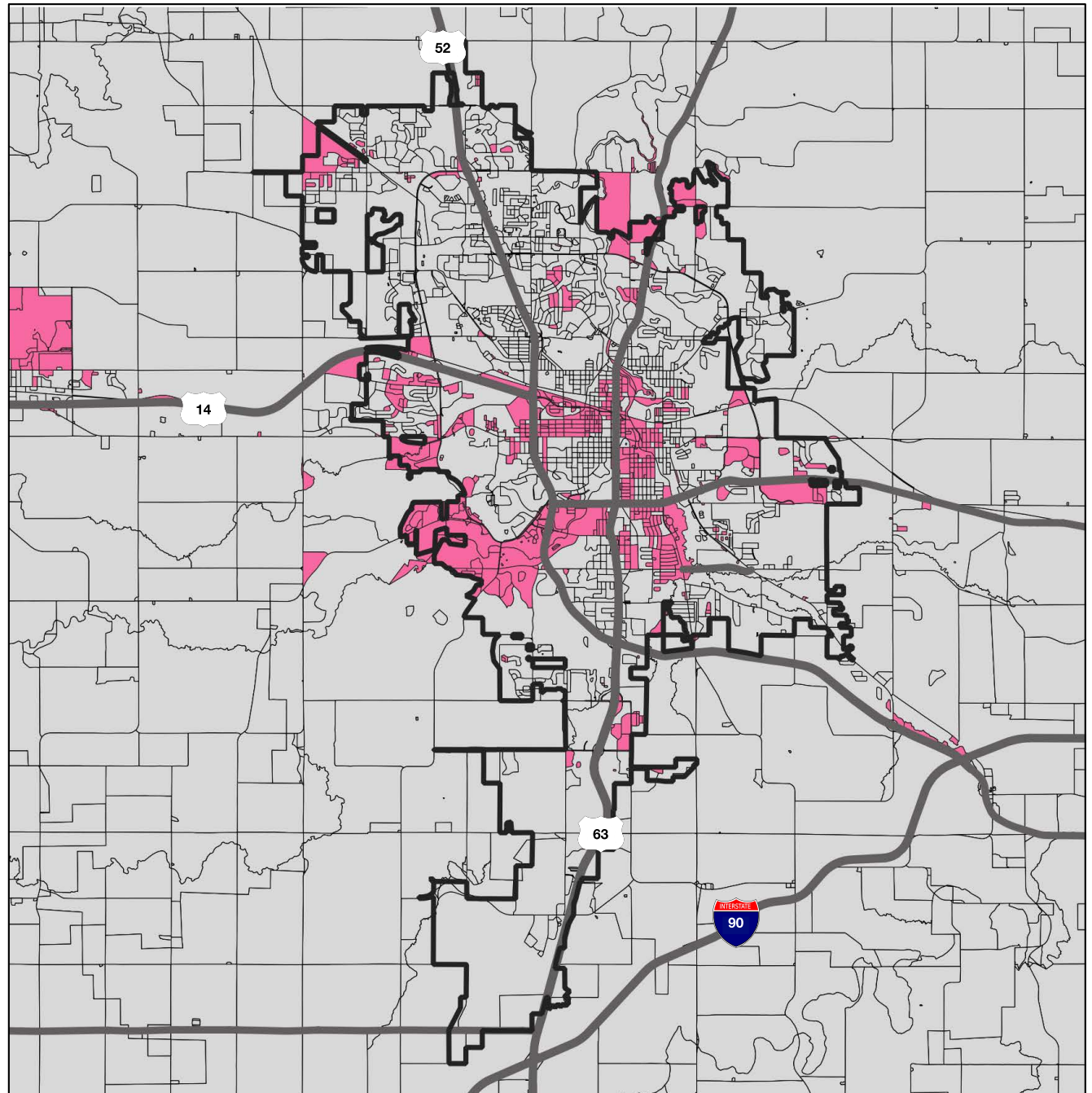
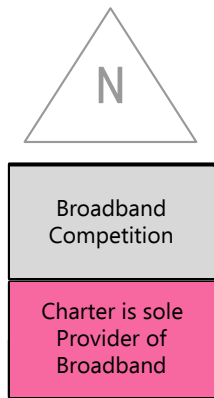
City Boundaries of
Rochester by Number of
Competitors Offering
≥ 100 Mbps



Sources: FCC Form 477 Dec 2016 v1 Data; US Census Population 2010
Data Design: Christopher Barich, MPP & H. Trostle; Community Broadband Networks Initiative,
Institute for Local Self-Reliance

Rochester, MN Charter Broadband Monopoly

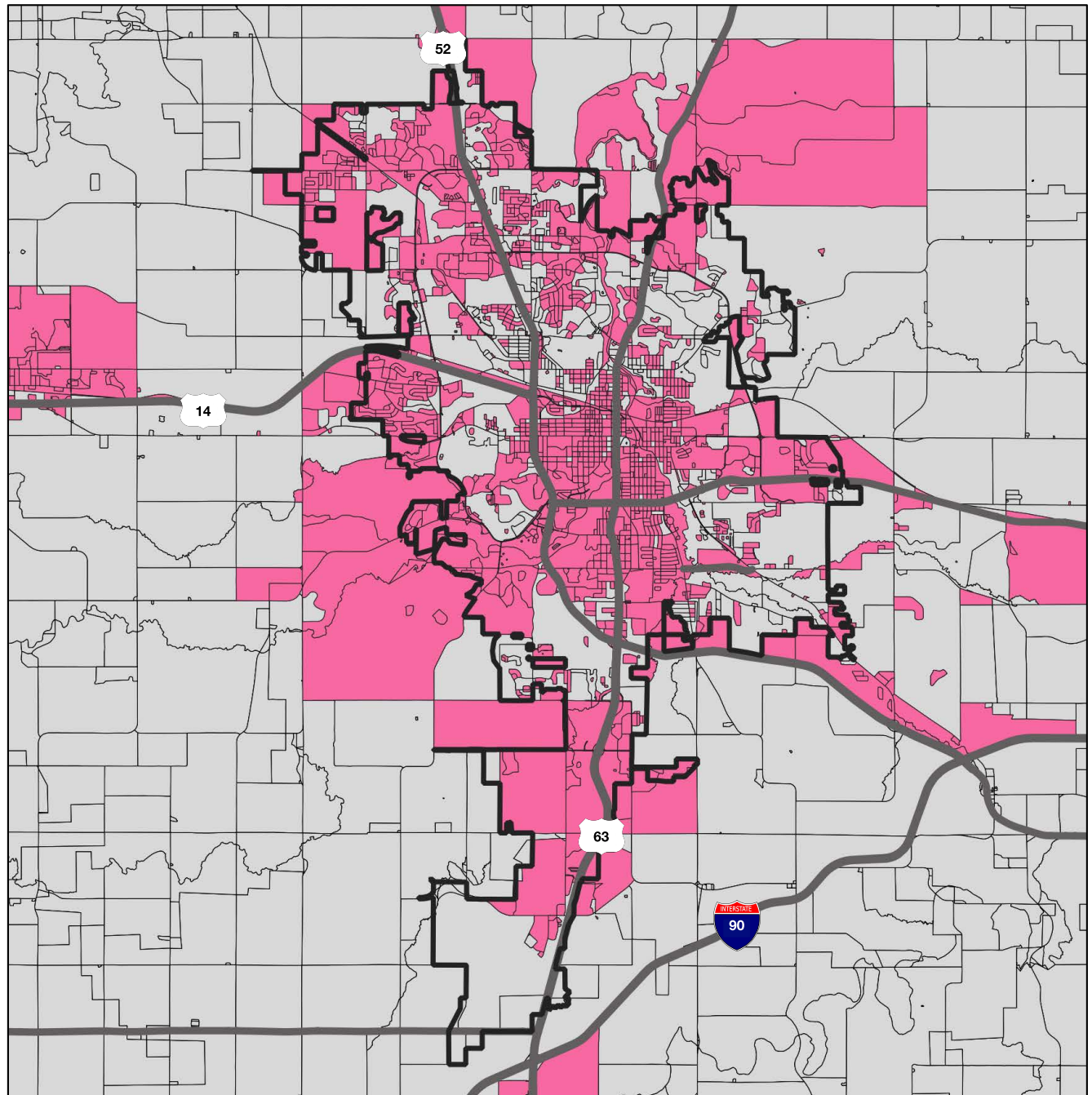
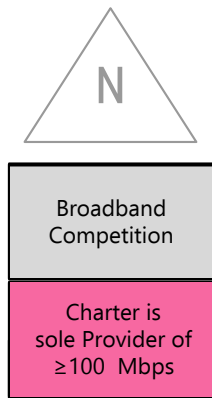
City Boundaries of
Rochester by Areas
where Charter is
Monopoly Broadband
Provider



Sources: FCC Form 477 Dec 2016 v1 Data; US Census Population 2010
Data Design: Christopher Barich, MPP, H. Trostle, & Hannah Bonestroo; Community Broadband
Networks Initiative, Institute for Local Self-Reliance

Rochester, MN Charter Broadband Monopoly ≥ 100 Mbps

City Boundaries of
Rochester by Areas where
Charter is Monopoly
Broadband Provider of
≥ 100 Mbps



Conclusion

The rural communities surrounding Rochester, Minnesota have few fast, affordable, and reliable Internet service options. The urban areas enjoy some limited broadband competition. Still, most residents can only access broadband with speeds greater than 100 Mbps through Charter.

A majority of the rural communities around Rochester rely on fixed wireless connections. The broadband tiers from fixed wireless providers are often more expensive than wireline broadband. The two fixed wireless providers that advertise Internet access at broadband speeds around Rochester are Hiawatha Broadband Communications' Air Internet division and RadioLink. Hiawatha Broadband Communications charges \$64.99 per month for a 25 Mbps download and 10 Mbps upload connection.⁸ RadioLink charges \$85 per month for a 30 Mbps download and 10 Mbps upload connection.⁹

Prices for Broadband Services in Rural Areas Outside Rochester

Internet Service Provider	Download / upload speeds	Cost per month (rounded)
HBC's Air Internet	25 Mbps / 10 Mbps	\$65
RadioLink	30 Mbps / 10 Mbps	\$85

⁸ Hiawatha Broadband Communications, Air Internet, (Accessed July 2018)

<https://www.hbci.com/air/internet/> .

⁹ Radio Link Internet, Plans, (Accessed July 2018)

<https://www.radiolinkinternet.com/Plans.html> .

Within Rochester, broadband is more affordable and has faster speeds than outlying areas. As of July 2018, Charter Communications charges \$30 for 100 Mbps download for one year if the service is bundled with a cable subscription in Rochester, but the service appears to cost \$65 without promos or bundling and before the many fees that are tacked on.¹⁰ CenturyLink has an online offer for 40 Mbps download for \$45 in Rochester, but that only applies to addresses located very close to the DSLAM and again does not include the added fees.¹¹ Jaguar Communications offers a Fiber-to-the-Home network in select portions of the city. In a phone call, they confirmed that fiber services cost \$69.95 per month for 125 Mbps download speeds, where available.

Prices for Broadband Services in Rochester

Internet Service Provider	Download speeds	Cost per month (rounded)
Charter Communications	100 Mbps	\$65
CenturyLink	40 Mbps	\$45
Jaguar	125 Mbps	\$70

Charter Communications' and CenturyLink's upload speeds were not available on their websites. High upload speeds enable subscribers to become full participants in the digital world, not just consumers of online content.

¹⁰ Charter Spectrum, Rochester Minnesota, (Accessed July 2018)

<https://www.spectrum.com/services/minnesota/rochester> .

¹¹ CenturyLink, Home, (Accessed July 2018)

<https://centurylink.com/home/> .

Conclusion (cont.)

Limited broadband competition, however, does not necessarily safeguard net neutrality or user privacy. Urban residents may be able to change their provider if they dislike a particular business practice of a single ISP, but there is no guarantee that any of these other companies will not violate net neutrality principles or sell subscriber data. Rural residents in the areas surrounding Rochester have even less recourse.

Overall, Charter and CenturyLink compete for the urban center of Rochester, while the rural areas rely almost exclusively on fixed wireless for broadband service. Even where residents have a choice in broadband, anyone looking for speeds in excess of 40 Mbps will almost certainly have to subscribe to Charter Spectrum. This is why more cities, especially those with municipal electric services, are considering how smart local investments can ensure more consumer choices and a working market for these essential services.

Sources

CenturyLink. Home. (Accessed July 2018)

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Charter Spectrum. Rochester Minnesota. (Accessed July 2018)

<https://www.spectrum.com/services/minnesota/rochester>.

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<https://muninetworks.org/content/why-25-mbps-3-mbps-reasonable-minimum-standard-2018>.

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https://www.facebook.com/pg/ltdbroadband/reviews/?ref=page_internal.

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https://www.watchdog.org/minnesota/city-wary-of-internet-company-s-free-broadband-report/article_98887082-7dd5-5650-b9dd-0789b778b329.html .



Photo by Phthalogreen, Wikimedia Commons, 2010.

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