



Carrier of Last Resort: Anachronism or Necessity?

Sherry Lichtenberg, Ph.D.
Principal Researcher, Telecommunications
National Regulatory Research Institute

Report No. 16-06

July 2016

© 2016 National Regulatory Research Institute
8611 Second Avenue, Suite 2C
Silver Spring, MD 20910
Tel: 301-588-5385
www.nrri.org

National Regulatory Research Institute

About NRRI

NRRI was founded in 1976 by the National Association of Regulatory Utility Commissioners (NARUC). While corporately independent, NARUC and NRRI are linked in multiple ways to ensure accountability. NARUC, as the association of all state regulators, is invested in quality research serving its members. NRRI coordinates its activities to support NARUC's policy, research, educational and member-support service to state commissions.

Mission Statement

To serve state utility regulators by producing and disseminating relevant, high-quality research that provides the analytical framework and practical tools necessary to improve their public interest decision-making. In all its activities, NRRI embodies the following values: relevance, excellence, objectivity, creativity, independence, fiscal prudence, ethics, timeliness and continuous improvement.

Board of Directors

Chair: Hon. **ToNola D. Brown-Bland**, Commissioner, North Carolina Utilities

Vice Chair: Hon. **John Rosales**, Commissioner, Illinois Commerce Commission

Treasurer: Hon. **Betty Ann Kane**, Chairman, District of Columbia Public Service Commission

Secretary: **Rajnish Barua**, Ph.D., Executive Director, NRRI

Hon. **John W. Betkoski, III**, Vice Chairman, Connecticut Public Utilities Regulatory Authority

Hon. **David W. Danner**, Chairman, Washington Utilities and Transportation Commission

Hon. **Elizabeth B. Fleming**, Commissioner, South Carolina Public Service Commission

Hon. **Sarah Hoffman**, Commissioner, Vermont Public Service Board

Hon. **John E. Howard**, Commissioner, South Carolina Public Service Commission

Hon. **Mike Huebsch**, Commissioner, Public Service Commission of Wisconsin

Hon. **Greg White**, Executive Director, NARUC

About the Author

Sherry Lichtenberg, Ph.D. is the Principal for Telecommunications at the National Regulatory Research Institute. Her telecommunications background includes competitive advocacy on the state and federal levels, operational support-systems design, performance metrics, contract arbitration, program management, and third-party testing. She has been a product manager, business manager, and operations leader for AT&T, MCI, and Verizon Business competitive local services. Dr. Lichtenberg received her Ph.D. in English Literature from Rutgers University.

Acknowledgments

The author wishes to thank Kerri DeYoung Phillips for her help in developing the COLR survey and Greg Doyle, Minnesota Department of Commerce, Thomas Wilson, Wyoming Public Service Commission, and Ron Elwood, Minnesota Legal Services Advocacy Project, for their detailed reviews of this document. She gives special thanks to Kathryn Kline, NRRI Research Assistant, for her help in preparing the charts and final edits for this paper. Finally, she thanks the members of the Telecommunications Subcommittee for their help in collecting the information for this paper.

Executive Summary

The idea that a specific carrier be designated as a carrier of last resort (COLR) is a cornerstone of utility regulation, arising both from English common law and historical state regulatory policy. Carriers of last resort have traditionally had four core obligations:

- The obligation to serve all customers within their territory, including extending facilities where necessary to provide service,
- A legal barrier to withdrawing service without the specific agreement of the state commission for local exchange service and the FCC for interstate services,
- An obligation to charge "just and reasonable prices," and
- An obligation to "exercise their calling with adequate care, skill, and honesty."

COLRs serve the "public good" by ensuring that access to critical services, such as electricity, water, gas, and telecommunications, is available to all end users, regardless of their location or ability to receive service from another carrier. COLR obligations have been applied to all critical public utilities, including telecommunications and electricity, especially as competitive service has increased. Indeed, a number of states have followed the pattern set by telecommunications regulation by establishing COLR rules for electricity suppliers as part of opening markets to retail choice. As in telecommunications, the purpose of these requirements is to ensure that electric service remains universally available to all consumers.

In telecommunications, COLR duties were historically imposed on the incumbent carriers that served a state-defined territory (franchise), often as a virtual monopoly. These carriers received access to state-owned rights of way and were allowed to charge rates that recouped the full cost of service plus a regulated profit. In most states, COLR duties have been assigned to the former Bell System incumbents, and to rural carriers holding state franchises. Since the passage of the Telecommunications Act of 1996, some states also assigned COLR duties to competitive carriers, either in addition to the incumbent carrier or as a replacement for that carrier should it relinquish its COLR status. In the states that have retained COLR obligations, these duties generally also include the four key requirements of COLR service as well as a requirement that carriers provide basic local service, serve as an eligible telecommunications carrier (ETC), offer Lifeline, and meet certain quality of service standards.

COLR policies in the states are changing as a result of the transition to broadband and increases in competition. Carriers are seeking limits on COLR obligations and looking for paths to eliminate this requirement in areas where they believe that competition and new technologies have removed the need for a single carrier to be designated as a backup service provider. For these reasons, COLR requirements have been modified or eliminated in some states as competition has increased the availability of alternate choices for telecommunications services. Legislation has further changed the requirements for carriers of last resort, including removing the requirement for basic local service, eliminating COLR requirements altogether (for example, in states like Florida and Delaware), limiting the requirement to areas without effective competition (for example, in Colorado), allowing carriers to exempt themselves from COLR

requirements by selecting alternative forms of regulation (for example, Alabama, Louisiana, and South Carolina), or providing a path to withdrawing COLR duties altogether, as proposed by recent legislation in Maine.

These changes have raised questions concerning the definition of COLR service, the requirement that traditional legacy wireline carriers serve as COLRs, and the type of service COLRs must provide (i.e., wired vs. wireless and TDM vs. VoIP). The changes in telecommunications regulation and customer behavior have also raised questions the necessity for continuing COLR requirements in areas where competitive entry has given users a choice of carriers. The technology transition and the reduction in the number of customers purchasing traditional wireline switched voice service has increased these questions and encouraged states to review their COLR requirements, including when and how these requirements have been or may be revised going forward.

To provide objective insight into state COLR requirements, NRRI surveyed the 50 states and the District of Columbia to seek current information on COLR obligations. Forty-seven states responded to the survey. Thirty-eight states have a COLR requirement and assign these obligations to incumbent carriers. Nine states either have never imposed COLR requirements or no longer do so as a result of legislation and competition. Although these states do not have a requirement that incumbent carriers serve as COLRs, they ensure the continuing availability of service by prohibiting carriers from withdrawing from a market without prior commission approval. Some of these states – such as New Mexico and Wyoming – have never had a statutory requirement defining a carrier of last resort. Others – such as Delaware and Florida – eliminated their COLR requirements as a result of deregulation and reduced commission oversight of competitive services.

This paper provides the results of the 2016 COLR survey. It reviews state COLR requirements and suggests ways in which states may evaluate and modernize their COLR requirements in response to changes in technology and regulation.

State COLR requirements can be organized into three main categories.

- Explicit statutory reference to COLR requirements, including commission orders and/or legislation defining COLR requirements.
- Implicit COLR requirements, including language regarding a carrier's "duty to serve," particularly if it has been designated as Eligible Telecommunications Carriers (ETCs). The statutes in these states do not use the term "COLR" explicitly, but either use alternative terms such as "duty to serve" or "obligation to serve" or otherwise require carriers to meet COLR-like requirements, including a prohibition against abandoning service.
- Limited requirements requiring carriers to provide service only in areas without competition.

Table 1 summarizes the states in these categories.

Table 1: COLR Categories by State

	#	States
Explicit Requirements	16	AK, AZ, CA, IA, LA, ME, MA, NE, NV, NH, OH, OR, PA, SC, WA, WV
Implicit Requirements	9	IL, MD, MN, NY, SD, UT, VT, WI, WY
Limited Requirements	13	AL, CO, GA, ID, IN, KS, KY, MI, MS, MO, NC, VA, OK
No Requirement	9	AR, CT, DC, DE, FL, MT, NM, ND, TN
No Response	4	HI, NJ, RI, TX

This paper reviews COLR requirements in the states, describes the rules that carriers may use to opt out of their COLR duties as a result of increased competition or deregulation, and reviews recent legislation revising COLR requirements.

COLR policies have been a critical part of ensuring universal access to telecommunications services, and remain necessary. However, competition and the transition to broadband have raised questions as to whether COLR duties should be required solely of ILECs and whether COLR service must be provided via a specific technology.

States considering legislation to change or abandon COLR requirements should consider the following questions in developing their recommendations on this critical subject.

- How should COLR requirements be defined? Should they be broadened to include broadband as well as voice?
- Should COLRs be required to offer basic service? If so, what are the minimum requirements for a 21st century telecommunications service?
- Is competition in an area where limitations on COLR service are proposed sufficient to ensure that at least one carrier capable of offering service to all will remain? How often should the level of competition be reviewed?
- How should competition be measured? Must a competitive provider be available to all customers in an area before the existing COLR is allowed to exit?
- What process should the state use to ensure that competition continues to provide affordable service, available to all?
- What has been the effect on consumers, businesses, and carriers of reductions in COLR requirements?

COLR policies provide regulators with a tool to ensure that no user is left behind when a carrier seeks to discontinue service. States should review their COLR policies on an on-going basis to ensure that all citizens have access to affordable service that meets their needs. States and carriers can work together to develop a new regulatory compact that maintains the best parts of both carrier of last resort duties and competitive offerings.

COLR service is not an anachronism, but is a living regulatory compact that must be evaluated and modified on an on-going basis.

Table of Contents

I.	Introduction.....	1
II.	COLR: An Overview.....	5
A.	The historical context of COLR requirements.....	6
B.	COLR Obligations	9
1.	Core Obligations	9
2.	State-specific COLR Obligations	9
C.	COLR obligations in other industries	13
III.	State COLR requirements	15
A.	Survey methodology	15
B.	Sources of state COLR requirements.....	16
1.	Explicit Requirements.....	17
2.	Implicit Requirements.....	21
3.	Limited Requirements.....	23
C.	Key COLR Obligations – Responses to the 2016 Survey	30
1.	Line extension.....	30
2.	Basic Local Service (BLS).....	31
3.	ETC requirements	33
4.	Relinquishing COLR Obligations.....	35
IV.	The future of COLR	37
A.	Legislation.....	37
1.	Maine	37

2.	California	39
3.	Minnesota.....	40
B.	Broadband.....	41
V.	Conclusions and recommendations.....	42
	Appendix A - 2016 NRRI COLR SURVEY	44
	Appendix B – Survey Responses	46
	Bibliography	54

List of Tables and Figures

Table 1: COLR Categories by State.....	4
Figure 1: COLR Requirements	17
Table 2: States with Explicit COLR Requirements	20
Table 3: States with Implicit COLR Requirements	23
Table 4: State Limitations on COLR Obligations.....	29
Table 5: State Paths to Eliminating COLR Obligations	35

Carrier of Last Resort: Necessity or Anachronism?

I. Introduction

The concept of a carrier (or provider) of last resort (COLR), a service provider that must serve all customers in its franchised territory, is a keystone of utility regulation.¹ Carriers of last resort serve the "public good" by providing a backstop for end users to ensure universal access to critical services, including electricity, water, gas, and telecommunications. COLRs must extend service to all customers in their territory upon request, regardless of location.² They must provide service at reasonable rates, and meet service quality requirements established by the state commission. The existence of a COLR ensures that residential and business customers have access to universal and adequate service no matter where they are located. This obligation is particularly important in rural and underserved areas, where the cost of service may be high, as well as in those areas where a focus on competition might result in carriers "cherry picking" customers, that is, choosing "high value" customers over those more difficult or costly to serve. In many states, the incumbent telecommunications provider is also an Eligible Telecommunications Carrier (ETC) with service requirements that focus on universal service availability and quality. Adding ETC requirements to COLR duties provides an additional backstop for universal service.

The Communications Act of 1934, as amended by the Telecommunications Act of 1996 (TA96), established the underlying rationale for COLR requirements. The Act specifically requires that nationwide, regulated telecommunications services, provided over "adequate facilities at reasonable prices" be made available to all, and establishes

A nationwide, regulated telecommunications network available to . . . to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nationwide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, . . . for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communication . . .³

¹ Depending on statutes and legislation, states use the term COLR and POLR, Providers of Last Resort, to refer to the public utility designated as the default service provider. The terms have the same meaning. This paper uses the term COLR, Carrier of Last Resort, for simplicity.

² Telecommunications carriers in particular may generally charge "reasonable rates" for line extensions to defray the cost of building these facilities.

³ Communications Act of 1934, 47 U.S.C. 151

Implicit in this statement is the idea that universal service depends on the availability of a "universal carrier."⁴ Thus, the Communications Act creates the COLR requirement by

- Ensuring the availability of comparable service for rural and urban areas,
- Requiring carriers to serve all customers regardless of location, and
- Imposing a requirement to serve.

The idea of a provider that must serve all customers in its territory under similar terms and conditions, regardless of location, stems from both English common law and the history of state public service regulation. English common law charged carriers with the duty to transport goods for all who requested it under the same terms and conditions. State communications regulation established the concept of a franchised carrier with the responsibility to serve all customers within its assigned territory.

Historically, COLRs have been the incumbent carriers that served a state-defined territory (franchise), generally as a monopoly. In most states, these carriers are the former Bell System incumbents, as well as rural carriers holding state franchises. Some states may also assign COLR duties to competitive carriers, either in addition to the incumbent carrier or as a replacement for that carrier should it relinquish its COLR status.

As noted earlier, the idea that the state identify a carrier to provide universal service is implicit in the "service to all" language of the 1934 Communications Act. The requirements are defined more explicitly in Sections 254 and 214 of the 1996 Act.⁵ COLRs have "an affirmative obligation to provide service throughout their franchise area,"⁶ and a legal obligation to continue to provide local exchange service until relieved of that duty by the state and interstate service until relieved of that obligation by the FCC under Section 214 of the 1996 Act. In addition, an ETC may not relinquish its duty to serve without specific commission approval.

Changes in the telecommunications landscape brought on by the development and adoption of new technologies like wireless and VoIP have prompted discussions concerning the definition of COLR, the requirement that traditional legacy wireline carriers serve as COLRs, the type of service COLRs must provide (i.e., wired vs. wireless and TDM vs. VoIP), as well as the need to maintain a COLR requirement in areas where competition has given users a choice of carriers and products. These changes have raised the question of how the states view COLR requirements and when and how these requirements have been or may be revised going forward.

⁴ As we will see later, this concept also informs electricity regulation in those states that have adopted competitive service.

⁵ Telecommunications Act of 1996, Pub. LA. No. 104-104, 110 Stat. 56 (1996)

⁶ Cherry, Barbara, The Origin of Carrier of Last Resort Obligations. Presentation to the NARUC Winter Meeting, Washington, DC, February 2016; slides available from NRRI, www.nrri.org

To provide objective insight into this issue, NRRI surveyed the 50 states and the District of Columbia to obtain up to date information on COLR obligations. 47 states responded.⁷ This paper provides the results of the 2016 COLR survey.

The paper is organized as follows:

- **Part I** of this paper is this introduction. It provides an overview of the questions influencing COLR policy and a summary of the results of the 2016 NRRI COLR survey.
- **Part II** reviews the legal and historical underpinnings of COLR policy. This section reviews the relationship of COLR requirements to English Common Law, state regulation, and ETC requirements.⁸ It also reviews COLR requirements in other industries and compares and contrasts them to the requirement for telecommunications services.
- **Part III** discusses the state responses to the COLR survey. It divides COLR requirements into explicit, implicit, and limited categories and explores the way in which states have linked these requirements to ETC designations and the requirement that COLRs provide basic local service (BLS). This section also addresses the definition of basic local service and the technologies carriers may use to provide it.
- **Part IV** explores the question of redefining COLR requirements as a result of industry changes, including adding a requirement for broadband to the COLRs' duty to serve. It reviews state legislation that addresses COLR requirements and provides a path for carriers to withdraw wireline service in areas where other carriers and/or technologies may provide universal service. This part also addresses the potential impact of the FCC's 2016 Broadband Lifeline Order and the changes it will bring to the process for certifying carriers as ETCs.
- **Part V** provides conclusions and recommendations for states addressing COLR issues.

The 2016 Survey appears in Appendix A. Appendix B summarizes key survey results. Individual survey responses are available upon request.

The 47 states that responded to the survey address COLR obligations in three ways:

- **Explicit statutory language**, including commission orders and/or legislation defining COLR requirements (16 states)
- **Implicit language** regarding carriers' COLR obligations, particularly those providers designated as Eligible Telecommunications Carriers (ETCs) by the

⁷ Four states did not respond to the 2016 NRRI and so are not addressed here. These states are Hawaii, New Jersey, Rhode Island, and Texas.

⁸ The author is indebted to the work of Professor Barbara Cherry in providing an explanation of the way in which English Common Law has influenced state universal service and COLR policy.

states. The statutes in these states do not use the term "COLR" explicitly, but require carriers to meet COLR-like requirements, including a prohibition against abandoning service. (9 states)

- **Limited requirements** requiring carriers to provide service only in areas without competition. (13 states)

Nine of the states that responded to the survey do not impose COLR requirements on carriers, although they prohibit them from withdrawing service without prior commission approval. Of these states, some, like New Mexico and Wyoming, have never had a statutory requirement defining a carrier of last resort.⁹ Others, like Delaware and Florida, no longer have COLR requirements as a result of the deregulation of telecommunications in those states.¹⁰

Finally, some states link COLR requirements to ETC designations, the requirement to provide basic local service (BLS), or rules regarding service withdrawal.¹¹ Changes to ETC requirements, including lifting the requirements that ILECs serve as COLRs and developing a national ETC designation process for broadband Lifeline carriers, may impact COLR rules in these states. Finally, at least two states, California and Maine, have legislation pending that may remove COLR requirements and provide a route to withdrawing service in at least some areas of the state.

Table 1 below illustrates the COLR categories by state.

Table 1: COLR Categories by State

	#	States
Explicit Requirements	16	AK, AZ, CA, IA, LA, ME, MA, NE, NV, NH, OH, OR, PA, SC, WA, WV
Implicit Requirements	9	IL, MD, MN, NY, SD, UT, VT, WI, WY
Limited Requirements	13	AL, CO, GA, ID, IN, KS, KY, MI, MS, MO, NC, VA, OK
No Requirement	9	AR, CT, DC, DE, FL, MT, NM, ND, TN
No Response	4	HI, NJ, RI, TX

The continuation of COLR requirements and the carriers to which these requirements should apply continue to be key questions for state commissions, legislators, carriers, and customers. As the industry moves from providing regulated services, such as TDM switched

⁹ For example, New Mexico responded to NRRI's survey by stating that "we do not have, nor ever had, a COLR statute." Email from Joan T. Ellis to Sherry Lichtenberg, 2/29/2016

¹⁰ It is important to note here that even in states that do not have COLR requirements, carriers must obtain FCC approval to abandon service defined in Section 214 of the 1996 Act as well as state approval if they operate as ETCs. To date, it appears that only Verizon has received FCC approval to cease providing service in one area, Mantoloking, NJ, and, then, primarily because facilities were destroyed as a result of Hurricane Sandy.

¹¹ The term Basic Local Service (BLS) as used in this paper refers to a single wired access line providing local exchange service. BLS does not include features or services beyond local exchange connectivity.

voice, to offering new services, such as wireless and VoIP, has the market already redefined a COLR's service obligations from providing regulated wireline service to simply making a communications service available, regardless of its regulatory status? Will changes to COLR requirements lead to service abandonment in some areas? How should regulation address this issue and its corollary, the rules for discontinuing COLR status and withdrawing from a specific telecommunications market (e.g., exchange, franchise territory, or other designated area)?

This paper attempts to answer those questions so that readers may have a base of understanding from which to evaluate legislative actions and understand and address carrier requests.

II. COLR: An Overview

COLR requirements are rooted both in English Common Law and in state and federal regulation of common carriers such as railroads, trucking, and other transportation services.¹² These "common carriers" have a duty to serve all requestors and to charge equivalent rates based on the services rendered. The common carrier and COLR rules were extended to other services necessary to "the public good," such as telecommunications and electricity, as these services became more widespread and critical to daily life. COLR policy allows federal and state regulators to ensure the availability of critical services to all of their constituents.

Carriers of last resort have an "obligation to serve." They must provide services on a non-discriminatory basis to all who request them, and must seek permission before leaving a market. The Ohio statute provides a clear statement of these requirements.

"Provider of last resort" means an ILEC or successor telephone company that is required to provide basic local exchange service on a reasonable and non-discriminatory basis to all persons or entities in its service area requesting that service . . .¹³

California's definition is similar:

Carriers of Last Resort are required to serve upon request all customers within their designated service area.¹⁴

¹² The precedent for state regulation of "common carriers" comes from *Munn v. Illinois*, 94 U.S. 113 (1876). In this case, the US Supreme Court found that certain industries, like railroads, were "affected by the public interest," justifying regulation of private interests for the public good.

¹³ §4901:1-6-27 Ohio Administrative Code and §4927.11 Ohio Revised Code, available at <http://codes.ohio.gov/orc/4927.11>

¹⁴ See PUC Code §275.6(b)(1) and CA PUC Decision D.12-12-038. The designated service area referred to here is the carrier's "franchised territory." California has approximately 25 COLRs, including all the state's ILECs.

We review the history of COLR requirements and their application to telecommunications in the following paragraphs. It is important to note that COLR requirements are not limited to telecommunications; they apply to all public utilities. To that end, in this section, we also briefly discuss how COLR requirements have been applied to electric utilities in the context of competition.

A. The historical context of COLR requirements

As Peter Bluhm and Phyllis Berndt note in their 2009 study of state COLR policy, COLR requirements have developed over time, arising first in English common law, then merging with the regulation of common carriers by state and federal railroad commissions and, later, by state public utility commission actions implementing universal service requirements.¹⁵ COLR requirements are based on the rules of "common carriage" and are also implicit in ETC designations¹⁶, including the requirement that carriers seek permission from state and federal regulators prior to withdrawing service from their designated service area (franchise territory). Common carrier rules ensure that critical services (e.g., transportation, lodging, electricity, and communications) remain universally available and affordable regardless of a customer's location. Although COLR requirements have changed as a result of competition, the introduction of new services, and legislation reducing state commission oversight of telecommunications, the requirement that state-licensed carriers continue to serve the public good continues.

The terms common carrier and carrier of last resort are linked and often used interchangeably. The dictionary defines a common carrier as "a business or agency that is available to the public for transportation of persons, goods, or messages."¹⁷ Generally, carriers of last resort are common carriers, although not all common carriers are COLRs. The rules governing common carriers are established by the states and the federal government. They are technology neutral, although the level of state oversight may be limited by legislation based on the type of service a carrier offers to fulfill its COLR duties.¹⁸

A common carrier is legally bound to carry all passengers or freight as long as there is enough space, the fee is paid, and no reasonable grounds to refuse to do so exist . . . The states regulate common carriers engaged in business within their borders. When interstate or foreign transportation is involved, the federal government, by virtue of the Commerce Clause of the Constitution, regulates the

¹⁵ Bluhm, Peter and Phyllis Bernt, Carriers of Last Resort: Updating a Traditional Doctrine, Report 09-10, National Regulatory Research Institute, July 2009, available at http://nrri.org/download/2009-10-carriers-of-last-resort_-updating-a-traditional-doctrine/

¹⁶ ETC rules differ for wireline and wireless carriers.

¹⁷ Merriam Webster Dictionary, available at <http://www.merriam-webster.com/dictionary/common%20carrier>

¹⁸ States where legislation has limited oversight of IP-enabled service may not have jurisdiction over COLRs that provide service using alternate technologies.

activities of such carriers. A common carrier may establish reasonable regulations for the efficient operation and maintenance of its business.¹⁹

Beginning as early as the fourteenth century, English common law assigned specific duties to common carriers and enterprises such as inns, coaches, and ferries that offered service to the public. These duties were also imposed on "public callings" like blacksmiths and innkeepers.²⁰ Common carriers and those offering services to the public were required to serve all customers without unreasonable discrimination and to comply with published regulations. These principles were later applied to railroads and other transportation providers and became embedded in utility law.²¹

Common law also established the concept of a "franchise," which granted a provider exclusive access to customers in a specific territory. Because the cost of building the required service (for example, establishing communications or electric transmission facilities) was high, franchise holders received a de facto monopoly for the service they offered. At the same time,

Franchises came with duties and benefits. A franchisee often had to make a substantial investment, in coaches, ferries, and even roads, as required by the terms of the franchise. Franchisees also faced barriers to exit, being required to provide service throughout the term of the franchise, even if it proved unprofitable. On the benefit side, a franchise often held a legal monopoly for an important service, creating an opportunity for large profits.²²

The granting of franchises also led to the need for regulatory controls, including pricing oversight to ensure that the monopoly carrier didn't gouge its customers or provide service at unfair prices.

Following the franchise rules established in common law, the FCC and the states assigned telecommunications carriers specific territories in which to operate and brought them under many of the rules originally applied to common carriers, such as railroads. In exchange for their franchise, carriers received access to rights of way and the ability to charge rates that generated a reasonable profit. The state imposed a requirement that carriers serve all customers in their specified territory. In some cases, they also imposed a requirement that these carriers serve as ETCs and meet established service quality goals.

¹⁹ West's Encyclopedia of American Law, edition 2. The Gale Group, 2008, available at <http://legal-dictionary.thefreedictionary.com/common+carrier>

²⁰ The Political Realities of Telecommunications Policies in the U.S.: How The Legacy Of Public Utility Regulation Constrains Adoption Of New Regulatory Models, 2003 Mich. St. DCL L. Rev. 757, Fall, 2003

²¹ Carrier of last resort requirements also apply to the electricity sector, primarily in areas where the decision to move to competition may cause supplier failure. We discuss this issue later in this paper.

²² Bluhm, p.16

The 1934 Act assigned to communications providers many of the duties that earlier had been assigned by common law to other kinds of common carriers, such as railroads. Indeed, Title II of the 1934 Act, the portion that contains most of the relevant duties that the federal act imposed on service providers, is titled “Common Carriers.”²³

While the 1996 Act modified the benefits provided to COLRs by opening local exchange markets to competition (effectively eliminating the concept of a legally sanctioned communications monopoly) it did not relieve COLRs of their duty to serve or of other requirements imposed by the federal government and the states. The Act continued COLR requirements for the incumbent carriers at the Federal level through the ETC process and by establishing the requirement that COLRs seek permission to exit their designated markets²⁴. Under the policy of cooperative federalism, where the states and the Federal government take joint responsibility for governing, based on their own unique capabilities, the FCC and the states shared jurisdiction over common carriers, including the process of designating ETCs.²⁵ To that end, in a number of jurisdictions, the states have linked COLR and ETC obligations by requiring incumbent carriers to serve as ETCs throughout their territories, even where multiple companies, including the new Competitive Local Exchange Carriers (CLECs) and wireless carriers share the ETC duties. In order to ensure that service remained universally available even in high cost areas, the FCC and many states created universal service funds to assist carriers designated as COLRs and ETCs to provide service in high cost areas.

TA 96 focused on opening markets to competition but continued to impose common carriage requirements on the incumbent carriers, including the requirement that they to serve as carriers of last resort. Over the long term, this dual focus has resulted in questions about who should take on the COLR obligation as competition and changing technology erode the power of incumbents in their traditional markets.

The 1996 Act displayed two distinct attitudes toward COLRs. On the one hand, the Act established a new regime for universal service support, and it made that support available broadly, to both COLRs and new entrants [by creating a process

²³ Bluhm and Berndt, p.17

²⁴ See Section 214 Communications Act of 1934. CLECs may exit markets by providing notice to customers and the FTC, although some states have expanded this requirement to include a transition plan.

²⁵ US Legal, Legal Terms, Definitions, and Dictionary, available at <http://definitions.uslegal.com/> See also National Association of Regulatory Utility Commissioners, Federalism Task Force Report: Cooperative Federalism and Telecom in the 21st Century, November, 2013, available at <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjiuseD0J3NAhXGdz4KHf9SDYEQFggcMAA&url=http%3A%2F%2Fpubs.naruc.org%2Fpub%2F0D53064E-9E9C-0929-9D01-FDBF631704F5&usg=AFQjCNFGPQN7KcMwRFuhpjYlhzGVMaCXYQ&sig2=jXdOsrVOIc3znC9RAmpu-w&bvm=bv.124088155,d.cWw>

to designate multiple ETCs in a single service territory]. At the same time, the Act affirmed some traditional state COLR policies [including requiring COLRs to provide service to all upon request throughout their service territories and defining and requiring basic service as a condition of that support].²⁶

We discuss COLR obligations in Section B below.

B. COLR Obligations

1. Core Obligations

Carriers of last resort have four core obligations:

- The obligation to serve all customers within their territory, including extending facilities where necessary to provide service;
- The obligation to obtain specific agreement from the state commission for local exchange service and the FCC for interstate service prior to withdrawing service;²⁷
- An obligation to charge "just and reasonable prices;" and,
- An obligation to "exercise their calling with adequate care, skill, and honesty."²⁸

In addition, incumbent local carriers that are COLRs must provide interconnection to the public switched network and interexchange (long distance) carriers. These COLRs must also provide wholesale services to other carriers in order to ensure the universal availability of telecommunications services.²⁹

The ILECs have been the carriers with infrastructure available throughout a service area and so have been able to extend lines to unserved consumers requesting service, and have the facilities in place to serve as a linchpin network providing other carriers with necessary interconnection services.³⁰

2. State-specific COLR Obligations

²⁶ Id. p.19

²⁷ Cherry, Barbara A. NARUC presentation, February, 2016; Section 214 of TA 96 provides the rules for withdrawing service interstate service.

²⁸ Cherry, Barbara A. (2007) "Maintaining Critical Rules to Enable Sustainable Communications Infrastructures," Georgia State University Law Review: Vol. 24: Iss. 4, Article 2. Available at: <http://readingroom.law.gsu.edu/gsulr/vol24/iss4/2>

²⁹ Wholesale services include unbundled network elements (UNEs), as well as special access services that allow competitors to take advantage of the COLR's last mile connections. CLECs do not bear this requirement.

³⁰ Bernt, Phyllis, Ph.D., Universal Service in the National Broadband Plan: A Case for Federal-State Cooperation, Journal of Information Policy, Vol. 1 (2011), pp. 125-144, available at <http://www.jstor.org/stable/10.5325/jinfopoli.1.2011.0125>

The states have modified the core COLR obligations to meet the needs of their citizens, both adding and reducing obligations where necessary. In some cases, they have tailored COLR requirements to match the requirements imposed on ETCs. In other cases, they have defined specific processes COLRs may use to eliminate their obligation (although these states have not yet approved the complete withdrawal of service from any area).

The states that have added additional obligations to the four basic requirements have focused on ensuring universal service availability, even as competition expands and consumers move to alternate services like cable, VoIP, and wireless. The increased duties include a requirement that COLRs provide basic local service (as defined by the state commission), a requirement that COLRs serve as ETCs throughout their territory to provide service to low income and disadvantaged consumers, and specific benefits for special classes of customers, such as those who are visually or hearing impaired or those who are low income. COLRs that provide basic service must often meet quality of service requirements.

California statutes provide a clear example of state COLR requirements. The CPUC has mandated basic service elements for voice services for all COLRs. These services include: a) voice grade access to the public switched telephone network or successor network; b) real time two way communication; c) access to 911 services; d) access to residential backup power; e) access to directory services; f) billing protections; g) access to toll-free numbers; h) telephone relay services for deaf and disabled consumers; i) equal access to interexchange carriers; and, j) conditions of service notifications to consumers.³¹

Other states have also mandated that COLRs meet a specific set of basic service requirements.

Maine requires COLRs to provide

a flat-rate service with voice grade access to the public switched telephone network; local usage within the basic service calling areas of incumbent local exchange carriers as of January 1, 2012; dual-tone multi-frequency signaling or its functional equivalent; single-party service or its functional equivalent; access to emergency services; access to operator services; access to interexchange service; access to directory assistance; toll limitation for qualifying low-income customers; and the capacity to maintain uninterrupted voice service during a power failure, either through the incorporation into the network or network interface devices of suitable battery backup or through electric current.³²

³¹ California Assembly Bill AB 2395, Telecommunications: replacement of public switched telephone network, Legislative Summary, available at <https://legiscan.com/CA/bill/AB2395/2015>

³² Maine Revised Statutes 35-A M.R.S. Sec. 7201 (7) and 7221(3), available at <http://legislature.maine.gov/statutes/> The backup power requirement may be waived by the Commission. Maine House Bill 466, signed 4/15/16 revises these rules to allow COLRs to exit specific cities based on the availability of competitive suppliers.

A 2016 Minnesota statute requires incumbent local exchange carriers to offer price-protected basic local service that includes: (1) single party voice-grade service and touch-tone capability; (2) access to the public switched network; (3) 911 or enhanced 911 access; and (4) telecommunications relay service capability and access necessary to comply with state and federal regulations.³³

Pennsylvania has similar requirements, based on state statutes requiring the Commission to maintain the availability of universal telecommunications service at affordable rates. Pennsylvania statutes and Commission Order require carriers to

Provide adequate, safe and reliable service and facilities for the convenience of the public and the interconnected telecommunications carriers throughout their respective service areas. [These] COLR obligations extend to the provision of retail telecommunications services anywhere within the ILEC's service territory, include service quality requirements and public safety obligations in terms of 911/E911 call traffic, and telecommunications carrier connectivity requirements that are governed by both Pennsylvania and federal law.³⁴

Alabama, Alaska, Colorado, Iowa, Michigan, Ohio, South Carolina, and other states also require COLRs to offer basic local service. Nevada defines two categories of COLRs, both required to provide basic local service.

"Provider of last resort" means the telecommunication provider designated by the regulations of the Commission to provide basic network service and business line service to any person requesting and eligible to receive telephone service in a particular service territory.

"Small-scale provider of last resort" means an incumbent local exchange carrier that is a provider of last resort of basic network service and business line service to customers through less than 60,000 access lines.³⁵

Nebraska statutes tie carrier duties to ETC requirements. Although the Nebraska statutes do not use the term COLR,

³³ 2016 Minn. Laws, ch. 115 (to be codified at Minn. Stat. § 237.025, subd. 8), available at <https://www.revisor.mn.gov/laws/?year=2016&type=0&doctype=Chapter&id=115>

³⁴ See 66 Pa. C.S. § 1501 and 3012(a)(2)

³⁵ Nevada Revised Statutes, NRS 704.018 and 704.023, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&sqi=2&ved=0ahUKEwjc_pzs4pXMAhXKbz4KHSBXCXgQFggcMAA&url=https%3A%2F%2Fwww.leg.state.nv.us%2Fnr%2F&usq=AFQjCNH7PdS64prWF8HboOAZxlxwd2kvTQ&sig2=UCrIy0vh00Eu4xOLmGCVjQ&bvm=bv.119745492,d.cWw

They expressly define obligations of entry, discontinuance and service requirements. Commission rules require carriers to serve every customer within a certain timeframe upon a reasonable request. The Commission's eligible telecommunications carrier (ETC) rules supplement state statute and require ETCs to serve all customers in a designated service territory within a reasonable period of time.³⁶

Oregon also links COLR obligations to ETC status.

In those states that have modified or eliminated COLR requirements in competitive areas or where carriers do not request USF funding, ETC requirements provide a quasi-COLR status.

As Bluhm and Bernt note in their 2009 paper, TA 96

created some . . . complexities [regarding the definition of COLRs and ETCs]. [After 1966, state laws gave] carrier[s] . . . three possible designations or attributes: 1) classical COLR; 2) federal ETC; and 3) state ETC. Harmonizing all the combinations can be a difficult task. One approach is to use all the terms synonymously. At the other extreme, a state might treat all three terms separately.³⁷

This is the case in Georgia, Idaho, Indiana, among other states. For example, Georgia allows carriers to opt out of their COLR status, but continues to require these carriers to serve as ETCs, ensuring the availability of universal service and mandating quality of service oversight (at least for those carriers offering wireline basic service). Similarly, Indiana relaxed its COLR requirements in 2012 to allow a COLR to relinquish its obligations but required that they retain their ETC status as a backstop to ensure universal service at an acceptable level of quality.

The rationale [for this decision] was that ETCs have similar responsibilities and federal rules delegate authority to states ensures an affected area has access to services when the last ETC relinquishes its ETC designation. In addition, the statute relies upon the supported services in 47 C.F.R. 54.101.³⁸

Other states have amended state COLR obligations allowing carriers to charge for line extensions, or eliminating the requirement to extend service to customer locations that have contracted with another supplier for all services, or allowing the use of alternate technologies to extend service to unserved areas. For example, Alabama allows a COLR to charge a line extension fee of up to \$8000. Alaska allows COLRs to charge a "reasonable fee" which must take into account any USF money the carrier has received. Colorado allows COLRs to charge for line extensions but must notify customers of those charges in advance.

³⁶ Knudson, Shana, Nebraska, response to NRRI survey

³⁷ Bluhm and Bernt, p. 35, internal footnotes omitted

³⁸ Getz, Sally, response to NRRI 2016 COLR survey.

Arizona, Alaska, and Maine, among others, allow COLRs to provide service using any technology. Kentucky Bill 152, passed in 2015, allows COLRs to provide service using fixed wireless in areas where there are no previously deployed facilities. Customers may "test drive" the wireless service and return to wired service upon request.³⁹ Maine bill H.P. 305, passed in May, 2016, also allows the state's incumbent carrier, FairPoint, to move customers to alternate technologies, but does not provide a test period.

Finally, a growing number of states have limited the requirement for COLR service to areas without competition. Alabama, Colorado, Georgia, Idaho, Indiana, Kansas, Kentucky, Michigan, Mississippi, Missouri, North Carolina, Virginia, and Oklahoma relieve carriers of their COLR obligation in areas with effective competition and/or where the ILEC no longer accepts USF funds.

Colorado ties COLR duties and the requirement that carriers provide basic local service to the acceptance of universal service funds in areas without effective competition. Beginning July 1, 2016, COLRs may be relieved of their duties in areas of the state where universal service funds are no longer provided.

Alabama and Georgia allow carriers that accept "alternate regulation" to relinquish their COLR duties. Idaho allows carriers to drop their COLR duties in competitive areas. Kentucky maintains COLR obligations only in areas of the state with fewer than 15,000 households. Missouri requires COLR service in all areas of the state except in the highly populated urban areas of Kansas City, St. Louis county, and St. Louis.

We discuss legislation modifying or eliminating COLR requirements in Part III.

C. COLR obligations in other industries

As we noted in Part I, many states extend COLR obligations to other critical public utilities, such as electricity suppliers. A number of states established COLR rules for electricity suppliers as part of opening their markets to retail choice. As in telecommunications, the purpose of these requirements is to ensure that electric service remains universally available to all consumers. As the Electric Markets Foundation points out in its review of retail choice in electricity, one of the key concerns influencing the development of COLR obligations in states opting for retail choice was the fear that weak suppliers might exit the market and leave customers with no supplier at all. To that end,

Most states opting for retail choice implemented a phased approach to market opening – with the largest customers becoming eligible first – and required incumbent utilities to offer default (standard offer) service and POLR service for

³⁹ Kentucky Bill HB 152, An Act Relating to Telecommunications (2015), available at <http://www.lrc.ky.gov/record/15rs/HB152.htm>

those customers who did not want to shop or whose retail energy supplier went bankrupt.⁴⁰

To ensure universal service, the Texas PUC designates specific suppliers in each jurisdiction open to competition to provide service should a provider default or refuse service.

The Commission has designated Providers of Last Resort (POLR) as a back-up electric service provider in each area of Texas open to competition POLR service is a safety net for customers whose chosen [company] is unable to continue service. This service is intended to be temporary and used only under rare circumstances when a [company] is unable to provide service, or when a customer requests POLR service.⁴¹

COLR service for electricity in Texas may be priced above service provided by another supplier, "due to the costs associated with planning and the risk of serving an uncertain number of customers with uncertain electricity loads."⁴² This differs from COLR service in telecommunications markets, where universal service support and the requirement to provide a regulated "basic telecommunications service" keeps prices among suppliers relatively equal.

Interestingly, the Vermont Public Service Board also considered the potential default of a new market entrant in establishing its COLR rules.

In the market for local exchange service, it is possible (indeed, likely in the near term) that some areas of the state may continue to be served by a single provider. Without a clear assignment of COLR responsibilities, that lone supplier could (conceivably) decide to abandon service, leaving the area's customers without an alternative local exchange carrier.⁴³

The US Agency for International Development (USAID) echoed these concerns in a study it prepared for the government of Georgia.

⁴⁰ Morey, Mathew J. and Laurence D. Kirsch, Retail Choice In Electricity: What Have We Learned In 20 Years? Christensen Associates Energy Consulting LLC, 2/11/16, available at http://electricmarketsresearchfoundation.org/uploads/3/4/4/6/34469793/retail_choice_in_electricity_for_e_mrf_final.pdf

⁴¹ Public Utility Commission of Texas, Provider of Last Resort, available at <http://www.puc.texas.gov/consumer/electricity/polr.aspx>

⁴² Id.

⁴³ State of Vermont Public Service Board, Order, Docket No. 5713, Investigation into New England Telephone and Telegraph Company's (NET's) tariff filing re: Open Network Architecture, including the unbundling of NET's network, expanded interconnection, and intelligent networks in re: Phase II, Module One, 02/04/99

To ensure the provision of continuous supply of electricity to customers in the event that a customer is suddenly without the services of a competitive retail electricity supplier and to encourage customers to exercise their opinion to choose their supplier of electricity upon commencement of retail competition and open access, it's crucial to develop and adopt set of rules known as the "Rules for the Supplier of Last Resort."⁴⁴

Twenty out of the 27 countries responding to an AID survey on COLRs require a supplier of last resort for electricity suppliers; 16 out of 25 responding have a similar requirement for gas companies. The COLR is designated by the regulator in 50% of these countries; the incumbent is designated as the COLR in the other 50%.

A Supplier of Last Resort is obliged to provide energy to final customers in emergency situations according to national legislation when the chosen supplier does not serve or cannot serve.⁴⁵

These requirements track closely with the way in which the US has implemented telecommunications COLR rules. We review the state responses to the NRRI survey Part III, below.

III. State COLR requirements

NRRI surveyed the 50 states and the District of Columbia to determine how they addressed COLR requirements. We present the results of that survey in this section.

A. Survey methodology

The NRRI 2016 State COLR Survey was distributed to commission staff in the 50 states and the District of Columbia. The author worked with NARUC's USF, Telecommunications, and Consumer Affairs subcommittees to develop the survey questions, distribute the initial questionnaire, and provide follow-up questions. The 2016 survey consisted of 11 questions asking states to describe their COLR requirements, explain whether they are grounded in statute, commission orders, or general practice, and provide the key duties of COLRs in their states, including line extensions, ETC status, and the requirement to provide basic service. The survey also asked questions about limitations on COLR duties, legislation reducing or limiting COLR duties, and the impact of new technologies on the way in which COLRs provide service. Most

⁴⁴ USAID/Caucasus Office Of Economy, Energy And Environment USAID Hydro Power and Energy Planning Project (HPEP), Overview of Supplier of Last Resort (SOLR) and Customer Switching Rules, August 4, 2014, available at <https://dec.usaid.gov/dec/GetDoc.axd?ctID=ODVhZjk4NWQtM2YyMi00YjRmLTkxNjktZTcxMjM2NDhmY2Uy&pID=NTYw&attchmnt=VHJlZQ==&rID=MzUxMTQz>

⁴⁵ Id. at page 4

importantly, the survey asked those states, where COLRs may be relieved of that status, for the process they must follow to do so. The survey questionnaire is found in Appendix A.

Forty-six states and the District of Columbia responded to the NRRI survey. Thirty-eight states provided detail on their COLR requirements. Nine states, Arkansas, Connecticut, Delaware, Florida, Montana, New Mexico, North Dakota, Tennessee, and the District of Columbia responded that they do not have COLR requirements.⁴⁶ Four states, Hawaii, New Jersey, Rhode Island, and Texas did not respond to the survey.

A summary of the survey responses is found in Appendix B. Individual State responses are available on request. Responses to the survey were tallied and used to provide the data in the report. Responses to closed questions such as whether the state had an explicit, implicit, or limited COLR requirement were tallied and are provided via charts in this paper. Responses to open-ended questions, such as the process a company may use to withdraw as the COLR in its territory are discussed in the relevant sections of the paper.⁴⁷

B. Sources of state COLR requirements

Depending on the state, COLR requirements are explicitly defined by statute, arise from commission orders or legislation, are based on general practices implemented prior to the 1996 Act, or have been limited based on changes in technology, competition, or carrier oversight. For the purposes of this paper, we group these requirements into the following three categories:

- **Explicit** – COLR specifically defined by statute or other state legal authority;
- **Implicit** - no specific statutory COLR definition, but either use alternative terms such as "duty to serve," obligation to serve," or otherwise applied based on multiple statutes, commission orders, and general practice; or,
- **Limited** – COLR requirements limited to specific areas, required only where there is no competition, or tied to the way in which a company chooses to be regulated.

Thirty-eight states have COLR requirements that fall into one of these categories.⁴⁸ Nine states have no COLR requirements, although these states still require carriers to seek approval before exiting. To date, no ILEC has ceased operations in a state or stopped providing COLR service.⁴⁹

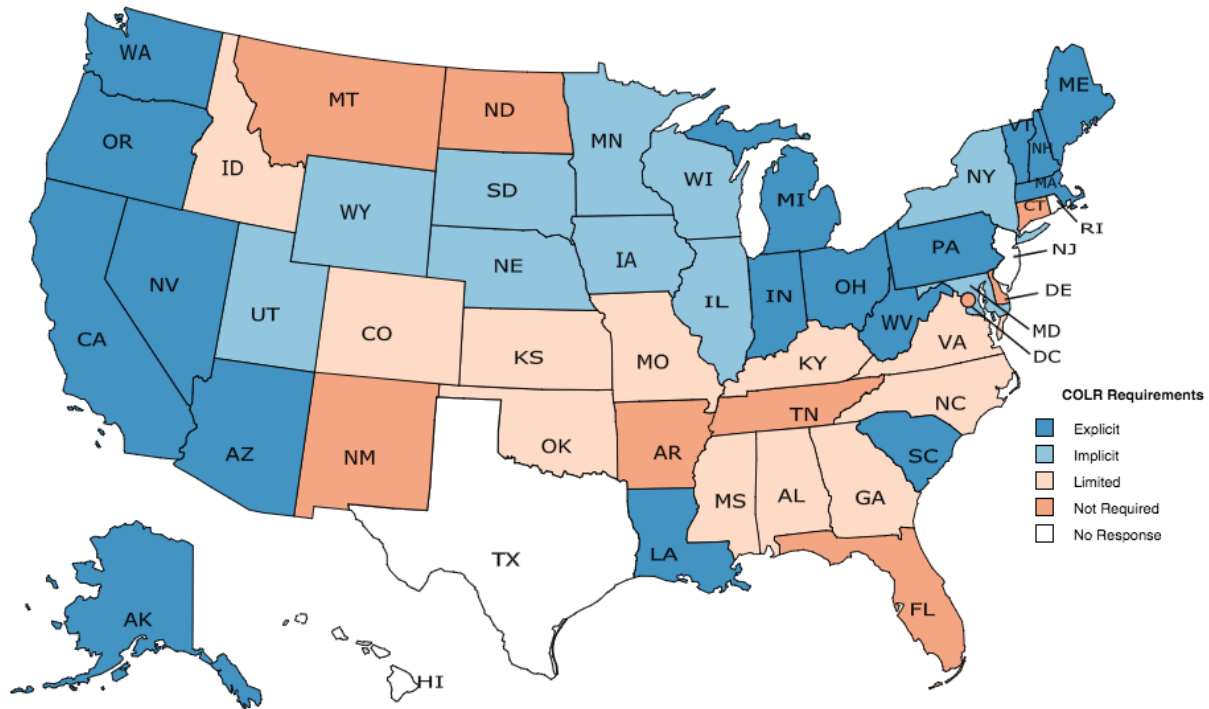
⁴⁶ Despite the lack of a "formal" requirement that carriers serve all customers on request, these states have not seen incumbent carriers exit or refuse to provide service to legitimate customers.

⁴⁷ Hawaii, New Jersey, Rhode Island, and Texas did not respond to the survey. New Jersey chose not to respond based on pending litigation in that state.

⁴⁸ Nine states have no COLR requirement, statutory or otherwise. The majority of these states removed their COLR requirement as a result of legislation. COLR requirements were generally defined as part of state process implementing TA96.

We discuss state COLR requirements in more detail in Section C.

Figure 1: COLR Requirements



1. Explicit Requirements

COLR requirements are explicitly defined in 16 states.⁵⁰ These states are Alaska, Arizona, California, Indiana, Louisiana, Maine, Massachusetts, Michigan, Nevada, New Hampshire, Ohio, Oregon, Pennsylvania, South Carolina, Washington, and West Virginia. COLR requirements in these states include the requirement that COLRs provide basic local service.

South Carolina's definition is instructive.

The term "carrier of last resort" means a facilities-based local exchange carrier, as determined by the commission, not inconsistent with the federal Telecommunications Act of 1996, which has the obligation to provide basic local exchange telephone service, upon reasonable request, to all residential and single-

⁴⁹ Recent legislation in Maine and proposed legislation in California may change this outcome. We discuss this legislation later.

⁵⁰ States with explicit requirements may also have limited these requirements in some way. We treat a requirement as "specific" if it is defined a state's statutes. We consider the COLR requirement "limited" if the state has passed legislation retaining COLR obligations only in certain areas of the state.

line business customers within a defined service area. Initially, the incumbent LEC must be a carrier of last resort within its existing service area.⁵¹

States with explicit COLR statutes require that the designated carrier serve all customers in their traditional service territories on request; provide basic local service (as defined by statute or through state commission orders, serve as ETCs, and, where applicable, meet the quality of service requirements established for ETCs.

Pennsylvania combines its statutory authority with specific commission orders to provide an explicit framework for COLR requirements.

A general obligation exists for every public utility to provide safe and reasonable service pursuant to 66 Pa. C.S. § 1501. Commission Orders . . . also address ILEC COLR obligations and policy implications . . . RLECs are required universally to provide adequate, safe and reliable service and facilities for the convenience of the public and the interconnected telecommunications carriers throughout their respective service areas. Such COLR obligations extend to the provision of retail telecommunications services anywhere within the ILEC's service territory, include service quality requirements and public safety obligations in terms of handling 911/E911 call traffic, and telecommunications carrier connectivity requirements that are governed by both Pennsylvania and federal law.⁵²

California statutes and commission orders also provide an explicit (and expansive) definition of COLR requirements. As explained in the legislative summary of pending California Bill AB 2395,

Carriers of Last Resort (COLR) are carriers that are required to serve, upon request, all customers within their service area. This includes services that are provided by the public purpose programs such as the Universal Lifeline Telephone Service, the Deaf and Disabled Telecommunications Program, and the California TeleConnect Fund, as well as providing basic service.⁵³

⁵¹ Code of South Carolina, Chapter 9, Article 1, Section 58-9-10, Definitions., available at <http://www.scstatehouse.gov/code/t58c009.php>

⁵² Pennsylvania Survey Response, email from Colin W. Scott, 2/25/16

⁵³ California Assembly Bill AB 2395, Telecommunications: replacement of public switched telephone network, Legislative Summary, available at <https://legiscan.com/CA/bill/AB2395/2015>. This bill would significantly reduce COLR requirements and provide a path for carriers to relinquish their COLR duties. See also <http://leginfo.legislature.ca.gov/faces/codesTOCSelected.xhtml?tocCode=PUC&tocTitle=+Public+Utilities+Code++PUC>. The current requirements for COLRs in California are delineated in CPUC Order D.12-12-038, available at <http://docs.cpuc.ca.gov/DecisionsSearchForm.aspx>

Wireless carriers may seek designation as COLRs in California, but must meet the requirements for basic service, including the ability to provide reliable service within a dwelling. No wireless carrier has requested COLR status to date.

COLRs that are also designated as ETCs receive benefits from state high cost funds and other support defraying part of the cost of providing universal service.

COLRs benefit by having access to high-cost fund subsidies such as the CHCF A and CHCF B which provide subsidies to small and large carriers for providing landline telephone services to residential customers in high cost areas. The CHCF A and CHCF B are funded through a surcharge on telecommunication customers.⁵⁴

Nevada designates two types of COLRs (called Providers of Last Resort), large and small Nevada Revised Statute 704.018 defines a large provider of last resort as a

Telecommunication provider designated by the regulations of the Commission to provide basic network service and business line service to any person requesting and eligible to receive telephone service in a particular service territory.⁵⁵

NRS 704.023 defines a Small-scale provider of last resort as an

Incumbent local exchange carrier that [provides] basic network service and business line service to customers [and serves] less than 60,000 access lines.⁵⁶

Table 2 summarizes COLR obligations in states with explicit COLR statutes.

⁵⁴ Id.

⁵⁵ Nevada Revised Statutes, NRS 704.018 and 704.023, available at <https://www.leg.state.nv.us/nrs/NRS-704.html>

⁵⁶ Id.

Table 2: States with Explicit COLR Requirements

State	Extend lines	Provide BLS	Serve as ETC	Quality Requirements
AK	Yes; rate must be reasonable and take into account USF funding	Yes. Use any technology as long as quality not diminished.	No	Provide retail and wholesale svc without diminution of quality
AZ	Yes. May charge.		No	
CA	Yes. May charge	Yes. Specific service requirements	Yes.	Must comply with requirements
IN	Yes. May charge. May be relieved of duties in comp areas	Provide the supported services required of ETCs	COLRs are ETCs. May relinquish COLR but must still meet ETC requirements	ETC requirements
LA	Yes. May charge.	Provide BLS upon request until relieved of the requirement by the Commission.	No	No oversight
MA	Yes. May charge	Yes.	No	Wireline only
MI	Yes. May charge.	BLES providers are COLRs.	Requirement not tied to ETC status	BLES only
NV	Yes. May charge	Single line res & bus svc	All COLRs are LL ETCs	ETC quality rules
NH	Yes. May charge	Yes. May be relieved of req.; may raise rates 10%/yr. Cap ends in 2020.	All COLRs are ETCs	ETC quality rules
OH	Yes. May charge	BLS req.	ILECs are ETCs	ETC quality rules
OR	Yes. May charge		Yes	Adequate and safe service
PA	Yes. May charge	Provide standalone basic telephone svc to requesting customers	COLR linked to ETC requirements	Provide safe and reasonable service
SC	Yes	BLS required	Not linked to ETC	No
VT	Yes. May charge for distance in excess of service drop	No	No	Yes
WA	Yes. May charge	Yes where no competition	No	Suitable and adequate facilities and service
WV	Yes. May charge	Yes. Any technology	No	

Author's construct based on survey data.

2. Implicit Requirements

COLR requirements in nine states, Iowa, Maryland, Minnesota, Nebraska, New York, South Dakota, Utah, Wisconsin, and Wyoming are not spelled out directly but are implied based on statutory language defining the "duty to serve" or "obligation to serve." These states also prohibit carriers from withdrawing service without state commission approval. The states with implicit COLR requirements base these duties on a combination of state and federal statutes, as well as on general practice.

For example, New York does not have an explicit COLR requirement but relies on statutory requirements that apply to all retail telecommunications service to ensure that all citizens have access to telecommunications services and that carriers do not exit the state without approval. New York statutes create a de facto COLR requirement based on duties assigned to all local exchange companies.

- Carriers may not withdraw or abandon local markets without PSC permission,
- Carriers receiving universal service support must ensure that service is available to all,
- Carriers must provide basic local service with a cap on the rate,
- Basic local service must be tariffed,
- ILECs may not withdraw basic local service.⁵⁷

Nebraska statutes use language similar to New York's to address carrier requirements. Nebraska's response to the 2016 COLR survey points out that although state statutes do not use the term "Carrier of Last Resort" specifically:

They expressly define obligations of entry, discontinuance and service requirements. Commission rules require carriers to serve every customer within a certain timeframe upon a reasonable request. The Commission's eligible telecommunications carrier (ETC) rules supplement state statute and require ETCs to serve all customers in a designated service territory within a reasonable period of time.⁵⁸

COLR obligations in Nebraska are assigned to incumbent carriers and linked to ETC duties.

Minnesota has codified its COLR obligations, previously based on multiple statutes that ensure that carriers furnish "reasonably adequate service" to all customers at a "fair and reasonable price" in legislation passed in 2016.⁵⁹

⁵⁷ Public Service Commission of New York, Competition 3 Order, 2006

⁵⁸ Survey response from Shana Knutson, Nebraska, PSC

⁵⁹ Minnesota Administrative Rules, Chapter 7288, Small Local Providers, available at <https://www.revisor.mn.gov/rules/?id=7811>; Chapter 7812, Large Local Providers, available at

It shall be the duty of every telephone company to furnish reasonably adequate service and facilities for the accommodation of the public, and its rates, tolls, and charges shall be fair and reasonable for the intrastate use thereof. All unreasonable rates, tolls, and charges are hereby declared to be unlawful. Any telephone company may include in its charges a reasonable deposit fee for facilities furnished.⁶⁰

The 2016 legislation added language to expressly place the obligation to provide service to customers upon request on all incumbent local exchange carriers.⁶¹

Maryland grounds its COLR requirements in the Alternate Form of Regulation (AFOR) agreement with its ILEC, Verizon. The terms of the AFOR protect consumers by ensuring the quality, availability, and reliability of telecommunications services throughout the state.^{62 63}

South Dakota also prohibits carriers from withdrawing or abandoning service without commission permission. Iowa requires that carriers serve all eligible customers unless specifically exempted. Wisconsin and Wyoming tie COLR requirements to ETC status. ILECs are automatically ETCs in Wisconsin and cannot relinquish that status unless another ETC steps in to assume their duties.

Finally, although Utah has no specific statute governing COLR duties, the ILECs continue to provide universal service to all who request it.

Table 3 summarizes the survey responses received from states with implicit COLR requirements,

<https://www.revisor.mn.gov/rules/?id=7812>, See also Minnesota Statutes (2015), Chapter 237, Telephone, Telegraph, and Telecommunications, available at <https://www.revisor.mn.gov/statutes/?id=237>

⁶⁰ Minnesota Statutes (2015), Chapter 237, Telephone, Telegraph, and Telecommunications, 237.06, Rates and Deposits, available at <https://www.revisor.mn.gov/statutes/?id=237.06>

⁶¹ 2016 Minn. Laws, ch. 115 (to be codified at Minn. Stat. § 237.025, subd. 9

⁶² Maryland Public Service Commission, Cases Nos. 9072, 9114, 9120, 9121, 9123, and 9133, (Verizon AFOR), available at http://webapp.psc.state.md.us/newIntranet/Casenum/submit_new.cfm?DirPath=C:\Casenum\9100-9199\9133\Item_145\&CaseN=9133\Item_145

⁶³ Survey response from Jeff Pongsiri, Maryland PSC

Table 3: States with Implicit COLR Requirements

State	Extend lines	Provide BLS	Serve as ETC	Svc Quality	Limitations
IA	Yes. May charge.		No.	Yes.	All carriers must serve all eligible customers unless specifically exempted.
MD	Yes. May charge	Yes.	No	AFOR service quality rules	VZ AFOR requires basic service throughout the state. AFOR "protects consumers by ensuring the quality, availability, and reliability of telecommunications services throughout the state."
MN	Yes but may charge.	Yes	ETC and COLR obligations overlap. All COLRs are ETCs.	Furnish reasonably adequate svc at fair and reasonable prices	COLR requirement embodied in statutory obligation to serve. Only ILECs are COLRs. May drop requirement by petitioning to change territory boundaries. Preserve universal and affordable service.
NE	Yes; may charge	Yes. ETC req.	ETC rules req serv to all customers	ETC svc quality reqs.	Statute and rules define obligations of entry, discontinuance, and service reqs. Registration rules for VoIP, BB, and wireless providers. Wireless/VoIP oversight if ETCs.
NY	Yes, may charge	Yes. Capped at \$23	Not linked to ETC	BLS quality req	Mkt exit requirements, USF requirements, BLS requirements; may not withdraw BLS, retail BLS tariffs.
SD	Yes	BLS req	Linked to ETC reqs	Svc quality rules	ILEC may not discontinue svc w/o Comm approval; may require installation of svc; must provide reliable, safe, and adequate facilities
UT	Yes; may charge for line extensions	ETC BLS req	Linked to ETC reqs	ETC quality rules	No specific state statute requiring ILEC to serve as COLR; ILECs have done so and continue to do so. No opt-out mechanism
WI	Yes; may charge	Basic voice; ILECs only	1 ETC req for each svc area		May obtain a waiver of COLR reqs as long as another ETC serves the area. ETCs have withdrawn from some areas but no COLRs to date. Last ETC must remain until a replacement is named.
WY	Yes; may charge		Tied to ETC designation		

Author's construct based on survey data.

3. Limited Requirements

As the number of states that have reduced or eliminated telecommunications regulation increases, one of the key questions facing state commissions, consumer advocates, and end users is the effect of these changes on carrier of last resort obligations. This concern is amplified by

fears about the replacement of traditional copper wireline service with IP-based or wireless service and even the potential for service abandonment. We describe the way in which states have limited COLR requirements in the following paragraphs.

Twelve states, Alabama, Colorado, Georgia, Idaho, Kansas, Kentucky, Maine, Mississippi, Missouri, North Carolina, Oklahoma, and Virginia have reduced or modified COLR obligations as a result of legislation, alternate regulation (AFOR) agreements, and/or commission decisions. These states have limited COLR duties to areas without competition, allow COLRs to provide service using any technology, and, in some cases, provide a path to terminating COLR status.

a. **Carrier Election**

Carriers may "elect" to be relieved of their COLR duties, including the duty to provide basic local service, in Alabama, Mississippi, and North Carolina. In Mississippi and North Carolina, this relief is subject to the availability of competitive service using any technology. In each of these states, the relief from COLR obligations applies only to a carrier's state duties. A carrier's duties under TA 96, including the requirement to seek approval from the FCC before discontinuing service, are not eliminated.⁶⁴

Alabama Act HB 196 provides an example of the way in which these states have limited COLR duties. HB 196 automatically eliminates COLR duties for the ILEC, removes the requirement to offer basic local service, and allows "electing carriers" to offer service using any technology. Carriers that wish to retain their COLR status may do so by notifying the state commission of their decision.⁶⁵

An incumbent local exchange carrier is relieved of its obligation to provide basic telephone service unless the incumbent local exchange carrier elects to retain the obligation and notifies the Public Service Commission not later than 30 days after the effective date of the act adding this subdivision.⁶⁶

HB 196 provides a backstop for customers that cannot get service from an alternate supplier. Customers residing in locations that existed prior to the passage of new law but who cannot receive service using any technology may petition the Commission to identify a carrier that will provide service.

⁶⁴ For example, although AT&T has relinquished its COLR duties in Alabama, it still must file Section 214 applications for each service to be discontinued or grandfathered as part of the technology transition trial.

⁶⁵ AT&T has elected to be relieved of COLR requirements in Alabama. Windstream chose to retain its COLR requirement.

⁶⁶ Alabama Act 2012-181, An Act to Amend the code of Alabama, available at <https://legiscan.com/AL/bill/HB196/2012>

If the commission determines that a reasonable request for service has been made and that no voice service is available . . . the commission may determine whether an incumbent local exchange carrier is best able to provide voice service . . . and may order the carrier to provide voice service. . . Alternatively, the commission may conduct a competitive procurement process to identify a willing provider of voice service to provide voice service at the requesting residence.⁶⁷

Mississippi and North Carolina have similar requirements. Mississippi allows carriers to elect to detariff service in specific areas where there is competition from carriers offering service using any technology.⁶⁸ North Carolina requires a similar notification process to relieve a carrier of its COLR duties.

A local exchange company . . . who forgoes receipt of any funding from a State funding mechanism . . . may elect to have its rates, terms, and conditions for its services determined pursuant to the plan described in this subsection by filing notice of its intent to do so with the Commission. The election is effective immediately upon filing.⁶⁹

b. USF funding

Colorado, Georgia, and Kansas limit COLR requirements to areas of the state where there is no or only limited competition and where carriers accept state universal service funds. Idaho and Virginia also limit COLR requirements where there is sufficient competition to ensure that service remains universally available.

Effective July 1, 2016, Colorado will not require carriers to serve as COLRs in areas the commission designates as "effectively competitive" and where the carrier does not receive universal service funding. Fifty-six CenturyLink wire centers are currently designated as "effectively competitive." CenturyLink has relinquished its COLR obligations in these wire centers.⁷⁰ Carriers must continue to provide basic local service and serve as COLRs in wire centers that have not been designated as effectively competitive.

Georgia provides an exemption from COLR requirements for carriers that have chosen alternative regulation and do not accept state universal service funds.

⁶⁷ Id. at (7)a

⁶⁸ Mississippi HB 825, available at <http://billstatus.ls.state.ms.us/2012/pdf/history/HB/HB0825.xml>

⁶⁹ North Carolina Statutes, G.S. 62-133.5(m), available at http://www.ncleg.net/enactedlegislation/statutes/html/bychapter/chapter_62.html

⁷⁰ Colorado House Bill 14-1331 Concerning the Regulation of Basic Local Exchange Service as It Affects Effective Competition, and, in Connection Therewith, Making an Appropriation, available at http://www.leg.state.co.us/clics/clics2014a/csl.nsf/fsbillcont3/4034ECA181A3A0D587257C9B00794391?open&file=1331_enr.pdf

No county or municipal authority shall impose upon a telephone company any build-out requirements on network construction or service deployment, and, to the extent that a telephone company has elected alternative regulation pursuant to Code Section 46-5-165, such company may satisfy its obligations pursuant to paragraph (2) of Code Section 46-5-169 by providing communications service, at the company's option, through any affiliated companies and through the use of any technology or service arrangement; provided, however, that such company shall remain subject to its obligations as set forth in paragraphs (4) and (5) of Code Section 46-5-169. The obligations required pursuant to paragraph (2) of Code Section 46-5-169 shall not apply to a telephone company that has elected alternative regulation pursuant to Code Section 46-5-165 and does not receive distributions from the Universal Access Fund as provided for in Code Section 46-5-167.⁷¹

Kansas also limits COLR obligations for carriers that do not accept state universal service funds and choose to be regulated as "electing carriers."

Any local exchange carrier with a majority of [its] . . . access lines in the state price deregulated . . . may elect to no longer be regulated as a local exchange carrier and . . . shall instead be regulated as a telecommunications carrier. . . Telecommunications carriers and electing carriers shall not be subject to regulation by the commission for the provision of telecommunications services, except that the commission shall retain the authority and jurisdiction to authorize applications, suspension or cancellation of certificates of public convenience and necessity to provide local exchange or exchange access service in the state of Kansas, but the commission may not use this certification authority to regulate telecommunications carriers or electing carriers beyond the jurisdiction provided the commission in this subsection.⁷²

Idaho limits COLR requirements to areas without effective competition. Idaho statutes define COLR in terms of basic local service. All ILECs must provide basic service and are prohibited from

Withdraw[ing] or otherwise discontinue[ing] service to a local exchange area unless one or more alternative telephone corporation are furnishing the respective

⁷¹ Georgia Code, §46-5-1 (5), 46-5-165, 46-5-167, and 46-5-169, available at <http://www.lexisnexis.com/hottopics/gacode/>

⁷² Kansas Statutes 66-2005(x) and (z), available at http://www.ksrevisor.org/statutes/chapters/ch66/066_020_0005.html

telecommunications service or equivalent service to the customers in such local exchange area at the time service is withdrawn or otherwise discontinued.⁷³

Virginia updated its telecommunications regulations in 2011 to remove COLR obligations in areas where customers have access to service from multiple suppliers, including wireless carriers.

A telephone company shall not have the duty to extend or expand its facilities to furnish service and facilities when the person, firm or corporation has service available from one or more alternative providers of wireline or terrestrial wireless communications services at prevailing market rates.⁷⁴

Carriers may provide service using any technology, but must give customers that had wireline service before moving to an alternate technology the option of returning to that service upon request.

c. **Other limitations**

Kentucky, Missouri, and Oklahoma condition COLR requirements on population size, access line counts, or specific locations within the state. Maine will reduce COLR requirements on a city by city basis, effective in 2017. We discuss these limitations generally here. We provide a more detailed discussion of recent COLR legislation, including bills in Maine, Minnesota, and proposed legislation in California in Section IV.

Kentucky revised its COLR requirements in 2015 to allow carriers to elect regulation under a new regime established by HB 152.⁷⁵ The Bill created a new statute limiting COLR requirements to areas with fewer than 15,000 housing units.

In exchanges with fifteen thousand (15,000) or more housing units as of January 1, 2015, based on United States Census data current as of January 1, 2015: (a) The commission shall not impose any requirements or otherwise regulate the terms, conditions, rates, or availability of any retail service of the modifying utility. . . .⁷⁶

⁷³ Idaho Code § 62-616 and § 62-610B(1), available at <http://www.legislature.idaho.gov/idstat/Title62/T62CH6SECT62-610.htm>

⁷⁴ Code of Virginia, § 56-234. Duty to furnish adequate service at reasonable and uniform rates, available at <http://law.lis.virginia.gov/vacode/56-234/>

⁷⁵ Kentucky Bill HB 152, An Act Relating to Telecommunications (2015), available at <http://www.lrc.ky.gov/record/15rs/HB152.htm>

⁷⁶ Id. at Section I.3.a

Electing carriers must continue to offer basic local exchange (COLR) service in areas with fewer than 15,000 units, but may do so using any technology, including wireless and VoIP.⁷⁷ Carriers that do not elect the new regulatory structure continue to have COLR requirements throughout their service territory. To date, only AT&T has applied for and received the exemption.

Legislation passed in April, 2016, will relieve Maine's dominant provider, FairPoint Communications, of its COLR obligations on a city by city basis, beginning with the largest cities in the state. The carrier may add additional cities every six months thereafter if it meets the service quality goals established in the legislation.⁷⁸ We discuss this legislation in detail in Part IV.

Missouri exempts carriers from providing COLR service in St. Louis County, St. Louis City, and portions of Kansas City based on the level of competition in these areas.⁷⁹ Carriers that receive USF support must provide COLR service throughout their territory.

Oklahoma also conditions COLR requirements on the number of lines served.

Each incumbent LEC serving fewer than seventy-five thousand access lines is designated as a Carrier of Last Resort for the territory for which it was certified on the date of the adoption of the Federal Telecommunications Act of 1996.⁸⁰

These rules (adopted in 2012) effectively eliminated AT&T's COLR obligations in the state, because it served more than 75,000 customers. COLR rules continue to apply to smaller ILECs and some CLECs that accepted COLR obligations as part have limited COLR obligations.

Table 4 summarizes the ways in which the states have limited COLR obligations.

⁷⁷ Customers that are not satisfied with the alternate technology offered to them may complain to the state commission, which may investigate the concerns.

⁷⁸ House Bill 466, An Act to Increase Competition and Ensure a Robust Information and Telecommunications Market, available at <https://legiscan.com/ME/bill/LD466/2015> The first tranche of COLR elimination will include Portland, Lewiston, Bangor, South Portland, Auburn, Biddeford, and Sanford.

⁷⁹ Missouri Revised Statutes, 392.460.1, available at <http://www.moga.mo.gov/mostatutes/stathtml/39200004601.html>

⁸⁰ Oklahoma Administrative Code, Section 165:55-13-12(a) Title 165. Corporation Commission, Chapter 55. Telecommunications Services Permanent Rules Amended, Effective 9-12-2014, available at <http://www.occeweb.com/rules/CH%2055%20Effective%209-12-2014%20searchable.pdf>

Table 4: State Limitations on COLR Obligations

State	Extend lines	Provide BLS	Serve as ETC	Svc Quality	Limitations
AL	Yes; may charge fee not to exceed \$8K	Limited; where no other carrier; any technology	Company choice	No oversight	Service may be provided by an affiliate. COLR relieved of its obligations unless it chooses to retain them. May order ILEC to provide svc if no other provider. May conduct a competitive procurement to find alt supplier. Requirement sunset 9/2013.
CO	Yes, may charge, provide customer notice in advance	Yes	No	Yes	COLR reqs remain until 7/1/16. After 7/1/16, COLR required only where ILEC receives high cost support. Commission may designate COLR in these areas.
GA	Yes, provide to any customer on demand		Yes, former COLRs retain ETC status	ETC reqs	State reqs eliminated for carriers that select alternate regulation and do not receive USF. Use any technology, contract with affiliated company.
ID	Yes if no alternate supplier. May charge.	Yes	Yes	May investigate svc quality	Not required where there is an alternative supplier.
KS	Yes. Must be "reasonable request"	Yes	COLR desig not linked to ETC	No oversight	Carriers that provided svc prior to 1/1/96 are COLRs, with the exception of those electing not to provide COLR svcs. USF funds for COLRs. AT&T dropped COLR designation.
KY	Yes. May charge.	Access to 911, IXC, DA, OS, TRS, directory	Yes	Must meet ETC reqs regardless of mkt size	COLR required in areas w <15,000 households; no obligations in larger areas.
MS	Yes; may charge; not req where competition	No for detariffed cos.	Dereg cos remain ETCs.	No oversight of detariffed cos	Carriers that are deregulated are no longer COLRs;

MO	Yes; may charge	Yes	Not linked to ETC		No COLR reqs in St. Louis Cty, St. Louis, portions of Kansas City. COLR may relinquish its requirement. http://www.moga.mo.gov/mostatutes/stathtml/39200004601.html . May petition to be relieved of COLR reqs where there are alt. carriers. Will also be relieved of req to provide BLS. No carrier has done so to date.
NC	Yes - carriers under trad reg; no - carriers under alt reg w/o COLR req	Yes	Not linked to ETC	No	Statute refers to Universal Service Provider rather than COLR. ILECs operating under GS 62-122.5(h) have reqs. RoR ILECs have COLR reqs. ILECs operating under alt reg in competitive areas do not have COLR reqs. http://www.ncleg.net/enactedlegislation/statutes/html/bychapter/chapter_62.html AT&T and CenturyLink have been relieved of reqs.
OK	Yes; no charge if <1/4 mi	BLS req.	Not linked to ETC	ETC quality rules	Comm Rule OAC 165:55-13-12, Extension of facilities; technology neutral but no oversight of wireless; each ILEC service <75K access lines is COLR (adopted 7-12-12); AT&T no longer a COLR
VA	Not req when alt svc available	Not in competitive areas	No	Reasonably adequate svc. Comm monitors complaints.	COLR svc not required where there is a competitive supplier. Must restore wireline svc on request. Comm may determine whether alt svc is equiv. Conditional req adopted in 2011 legislation.

C. Key COLR Obligations – Responses to the 2016 Survey

1. Line extension

COLRs must extend service to all customers on request. In some states, the COLR may use an alternate technology, generally wireless, to extend service to areas where wireline service has not been deployed or where line extensions would be too costly.

Carriers may charge for extending lines, but these charges must be "reasonable". Vermont, for example allows carriers to charge only for line extensions from the closest point where the carrier provides service to the customer premise.⁸¹

Three states, Alaska, Michigan, and Oregon, require COLRs to extend service to customers regardless of whether the community in which they live has contracted with another supplier. The remaining states allow COLRs to refuse service requests in complexes where users have chosen an alternate supplier. It is unclear whether or how this decision will impact customers going forward. As more subdivisions contract with a single supplier, there may be gaps in the ubiquitous infrastructure of the public switched network. If one of these suppliers were to choose to exit – or default – who would provide service?

Table 5 provides line extension requirements by state.

2. Basic Local Service (BLS)

Basic local service is a key requirement for COLRs in nearly all states.⁸² BLS is generally defined as a single wireline residential or business service that provides dial tone and the ability to make and receive calls. South Carolina's definition of BLS is instructive,

The term "basic local exchange telephone service" means for residential and single-line business customers, access to basic voice grade local service with touchtone, access to available emergency services and directory assistance, the capability to access interconnecting carriers, relay services, access to operator services, and one annual local directory listing (white pages or equivalent).⁸³

South Carolina allows COLRs to opt out of providing BLS in areas where there are two wireless carriers that provide a basic service. To date, only AT&T has done so.

⁸¹ State of Vermont Public Service Board, Docket No. 8715, Investigation pursuant to 30 V.S.A. § 209 into Compliance of Helicon Group, L.P., d/b/a Charter Communications, with Board Rule 7.313 and its tariff related to line extensions, 4/8/2016, available at <http://psb.vermont.gov/sites/psb/files/orders/2016/April/8715%20Order%20Opening%20Investigation.pdf>

⁸² Carriers that have opted out of COLR requirements in states that have reduced telecommunications oversight, such as Alabama, North and South Carolina, are no longer required to provide BLS. See Lichtenberg, Sherry, Ph.D. Examining the Role of State Regulators as Telecommunications Oversight is Reduced, National Regulatory Research Institute, Report No. 15-07, August 2015, available at <http://nrri.org/download/nrri-15-07-telecom-regulation/>

⁸³ South Carolina Code of Laws, Title 58, Chapter 9, Article 1, §58.9.10(9), available at <http://www.scstatehouse.gov/code/t58c009.php>

Minnesota requires ILECs to provide basic local service and requires that rates are uniform within exchange service areas.⁸⁴

California defines COLR duties in terms of the requirement to provide basic local service and assigns these duties to the ILEC. The California BLS requirements are more extensive than those in other states. Proposed legislation may result in limiting these requirements. We discuss that legislation (pending at the time of this writing) in Part IV.

- a. Carriers offering basic service must at a minimum enable calls to be sent and received within a local exchange or over an equivalent or larger-sized local calling area.
- b. A basic service provider must allow equal access to all interexchange carriers within the local calling area in accordance with state and federal law and regulation.
- c. Carriers offering basic service must provide a voice-grade connection from the customer residence to the public switched telephone network or successor network.
- d. Carriers offering basic service must disclose to each customer before subscription that they are entitled to a voice grade connection and the conditions under which the customer may terminate service without penalty if one cannot be provided.
- e. If at any time, a basic service customer fails to receive a voice grade connection to the residence and notifies the provider, the basic service provider is required to (1) promptly restore the voice-grade connection, or if not possible (2) provide basic service to that customer using a different technology if offered by the provider and if the customer agrees; or (3) allow the customer to discontinue service without incurring early termination fees, if applicable. Nothing in these rules should be inferred as modifying the service obligation of a COLR to ensure continuity of customers' basic service.⁸⁵

Basic local service in California also includes access to emergency services, directory services, toll free calling (800 number) service, telecommunications relay service, call blocking, and operator services. Carriers offering BLS in California must provide flat rate billing (including unlimited local calling), free call blocking, and free access to customer service. COLRs offering BLS must also participate in Lifeline. COLRs must offer the services defined in Order D.12-12-038 throughout their territories. Although any carrier in California may offer

⁸⁴ 2016 Minn. Laws, ch 115 (to be codified as Minn. Stat. §237.025, sbd. 8

⁸⁵ California Public Utility Commission, Order D.12-12-038, Appendix A, available at <http://docs.cpuc.ca.gov/DecisionsSearchForm.aspx>

basic local service, only the ILEC has an explicit COLR requirement. Finally, California allows carriers to provide BLS using alternate technologies, including wireless and VoIP, as long as that technology meets the requirements described in the abovementioned Commission Order D.12-12-038.

In Nebraska, ILECs and CLECs that receive state USF support must provide basic local service. The Commission retains indirect oversight of BLS pricing. The Commission's price increase statutes are triggered when a carrier proposes to increase rates by 10 percent or more or when a certain percentage of customers complain about a basic local rate increase.⁸⁶

Legislation and commission actions in 10 states have redefined basic local service to include service offered using any technology, including wireless. For example, Alaska allows carriers to provide BLS using any technology, "as long as quality is not diminished."⁸⁷ Alabama and Georgia require BLS but allow carriers to provide service using any technology. In Alabama, carriers may provide service through an affiliate (potentially a third carrier). Louisiana, Maryland, Maine,⁸⁸ Massachusetts, Maryland, Ohio, and Oklahoma also allow carriers to use any technology to provide BLS.

Kentucky allows carriers to provide BLS using an alternate technology, including wireless but gives customers the ability to "test drive" wireless or other technologies before accepting the change from wired service.⁸⁹

3. ETC requirements

Seventeen states—Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Kentucky, Minnesota, Mississippi, New Hampshire, New York, Oregon, Pennsylvania, South Dakota, Utah, Wisconsin, and Wyoming—link COLR designation to federal and state ETC requirements. These states require COLRs to serve as ETCs, in order to ensure the universal availability of affordable service. The linkage between COLR requirements and ETC designation gives even those states that have relaxed or eliminated telecommunications regulation some oversight of service availability, reliability, and quality. The ETC designation also ensures that carriers do not discontinue service without notice and approval. Thus, the linkage between ETC designation

⁸⁶ Email from Shana Knutson, Nebraska PUC, 4/22/16

⁸⁷ Kramer, Steve, Alaska response to NRRI COLR survey

⁸⁸ Maine opened the way for VoIP and wireless carriers to provide BLS in that state with the passage of Maine Bill LD 1302, An Act to Increase Competition and Ensure a Robust Information and Telecommunications Market, in 2012. LD 1302 established a process for waiving the requirement that COLRs provide line powered service. No provider of last resort has requested such a waiver to date. See Maine Revised Statutes 35-A M.R.S. Sec. 7201 (7) and 7221(3), available at <http://legislature.maine.gov/statutes/>

⁸⁹ Kentucky Bill HB 152, An Act Relating to Telecommunications (2015), available at <http://www.lrc.ky.gov/record/15rs/HB152.htm>

and COLR responsibilities provides a backstop to ensure that telecommunications service remains universally available.

For example, both Florida and Wisconsin have deregulated retail telecommunications but continue to require carriers that have accepted ETC status to follow the rules designated in Section 214 of TA 96. Florida does not impose a COLR obligation on carriers but requires wireline providers to follow the FCC's ETC requirements where they accept federal Universal Service Support.⁹⁰

Wisconsin does not specifically define COLRs in its statutes but ensures that service is available to all by designating ILECs as ETCs and requiring that there be at least one ETC in each designated area at all times. As long there is one ETC in each area, others may leave at will. The last ETC in an area cannot leave until a replacement is appointed.

If no other ETC is designated for that area, the relinquishing ETC shall remain as the ETC for that area until the commission designates an alternative ETC. In that case, the commission shall notify the relinquishing, ETC and the administrators of the state and federal funds that ETC status is still in effect. The commission may use an auction or other reasonable process to designate a new ETC for an area for which the only existing ETC is seeking to relinquish that status. The commission may authorize compensation from the universal service fund as part of this process.⁹¹

ILECs designated as ETCs may obtain a waiver of these requirements, but none have done so to date.⁹²

The New Hampshire Commission designated each ILEC as an ETC in 1997. The ETC designation brought with it both federal and state COLR obligations, including quality of service oversight. The New Hampshire Commission has not addressed the issue of regulating carriers that fulfill their ETC obligations through an alternate technology such as VoIP, but staff postulates that the ETC designation would presumably allow this sort of oversight.

In Idaho, the Commission may impose COLR duties on ETCs, including requiring that carriers continue to provide Basic Local Service. Illinois imposes a similar requirement. ETCs in Kentucky retain a requirement to serve, even in areas where telecommunications has been deregulated.

⁹⁰ Florida Statutes (2015), Chapter 364, Telecommunications Companies, available at http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0300-0399/0364/0364.html

⁹¹ Wisconsin Statutes, 160.13(8), Designation of Eligible Telecommunications Carriers, available at https://docs.legis.wisconsin.gov/code/admin_code/psc/160/13

⁹² Richter, Jeff, Wisconsin response to NRRI COLR survey

4. Relinquishing COLR Obligations

Twenty-four states provide a path for carriers to relinquish their status as COLRs. The process is generally conditioned on market size, the availability of alternate suppliers, alternative regulation, and commission waivers. Withdrawing as a COLR does not give a carrier the right to abandon service or relinquish its status as ETCs, but simply allows the company to relinquish the requirement that it provide service to all on request. Carriers that wish to abandon service entirely must follow the rules outlined in Section 214 of the 1996 Act and the FCC Copper Retirement Order.⁹³

Oklahoma provides a path for carriers to drop their designation as a COLR in markets with greater than 75,000 lines. Kentucky provides a similar path, requiring the ILEC to act as a COLR only in areas with fewer than 15,000 households.

Massachusetts addressed the question of the withdrawal of COLR requirements in 1985 as it began to review how to ensure competition in the wake of the breakup of the Bell System. In D.P.U Order 1731, the commission determined that a non-dominant carrier would be allowed to relinquish its COLR obligations. To date, the state's primary ILEC, Verizon, has not chosen to pursue a change to its COLR status.

Illinois and Louisiana allow the transfer of COLR duties to CLECs.

Table 5 below, shows the paths carriers may follow to relinquish their COLR responsibilities.

Table 5: State Paths to Eliminating COLR Obligations

State	Adopt Alternate Regulation	Competition	Commission Decision	No explicit path	Notes
AL	X				AT&T has relinquished its COLR duties
AK		X			AT&T has petitioned to transfer IXC duties to GCI
AZ				X	
AR	X				
CA				X	Legislation pending to address COLR duties
CO		X			COLR requirements rescinded in competitive areas

⁹³ Technology Transitions, Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers, Special Access for Price Cap Local Exchange, AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, GN Docket No. 13-5, RM-11358, WC Docket No. 05-25, RM-10593, FCC 15-97 (rel. Aug. 7, 2015) (Further Notice) (Technology Transitions NPRM) (Copper Retirement NPRM) https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-97A1.pdf

State	Adopt Alternate Regulation	Competition	Commission Decision	No explicit path	Notes
GA	X				
ID				X	
IL			X		CLEC may accept COLR duties
IN			X		2 ETCs + ILEC required
IA				X	
KS	X				AT&T has relinquished COLR duties
KY			X		Household size determination
LA			X		CLEC may accept COLR duties
ME			X		2016 legislation provides path to withdraw
MD				X	
MA		X			Non-dominant carrier may relinquish
MI			X		AT&T has relinquished COLR duties
MN			X		Petition to change territory boundaries
MS	X				
MO		X			Specific locations
NE				X	
NV		X			May be relieved if alternate providers
NH			X		No ILEC has petitioned to drop COLR
NY			X		
NC	X				COLR required for rural carriers only
OH			X		Collaborative addressing proposed rules
OK	X				Line counts
OR				X	
PA			X		Verizon AFOR order requires COLR throughout state
SC	X				AT&T has relinquished COLR duties
SD			X		
UT				X	
VT				X	
VA		X			
WA			X		Change svc territory
WV				X	
WI		X			Waive COLR where multiple carriers
WY				X	

IV. The future of COLR

As we noted earlier, carrier of last resort requirements have begun to change as a result of increased competition, legislation reducing commission oversight of telecommunications, and changes in technology. This section explores the future of COLR requirements, and makes recommendations for commission actions going forward.

A. Legislation

Maine passed legislation in 2016 significantly reducing FairPoint's COLR obligations and providing a path for eliminating the requirement altogether. Pending legislation in California focuses on the transition to IP-enabled services and could have a similar effect. On the opposite end of the spectrum, recent legislation in Minnesota protects COLR and basic local service requirements in that state. We discuss these three bills here.

1. Maine

Maine Act H.P. 305 – L.D. 406, An Act to Increase Competition and Ensure a Robust Information and Telecommunications Market, creates a path for the state's incumbent carrier, FairPoint, to withdraw COLR service in specific areas across the state.⁹⁴ The bill provides a schedule of locations where FairPoint will no longer be obligated to offer "provider of last resort service," beginning 30 days after the effective date of the bill (April 13, 2016) and continuing every 6 months thereafter, assuming that FairPoint achieves specific service quality goals. The bill requires a public meeting to inform customers of the changes to the carrier of last resort duties, including removing pricing oversight for basic local service one year after the date other company's COLR obligation ceases.

For one year from the date a price cap ILEC is relieved of the obligation to provide provider of last resort service in a municipality in accordance with this subsection, the price cap ILEC shall continue to offer to each provider of last resort service customer in that municipality to whom it was providing the service on the date the obligation ceased a telephone service with the same rates, terms and conditions as it provides to provider of last resort service customers to whom it is obligated to provide provider of last resort service.⁹⁵

The areas where COLR service will no longer be required begin with the state's largest cities (Portland, Bangor, South Portland, Auburn, Biddeford, and Sanford), with smaller areas added every six months thereafter, for a total of 22 areas where COLR service will no longer be required. Additional locations may be added based on a request by FairPoint and a

⁹⁴ Maine House Bill 305, An Act to Increase Competition and Ensure a Robust Information and Telecommunications Market, available at <https://legiscan.com/ME/bill/LD466/2015>

⁹⁵ Id. Sec. 3 35-A MRSA §7221, sub-§§4(C)

determination by the commission that alternate wireline and wireless suppliers are available in those areas.

The commission may approve the withdrawal of COLR service if it finds that

(a) In addition to the price cap ILEC, there is at least one wireline-facilities based voice network service provider that offers service to at least 95% of the households in the municipality;⁹⁶ and

(b) One or more mobile telecommunications services providers offer, on a combined basis, mobile telecommunications services to at least 97% of the households in the municipality.⁹⁷

Prior to filing a request to be relieved of COLR duties in locations beyond the first six named in the bill, FairPoint must meet service quality requirements for two consecutive quarters in areas where it serves as a COLR.⁹⁸ The Act adjusts the state's current service quality requirements to four.

- A. Less than 3 network troubles per 100 customers;
- B. Less than 20% of network troubles not cleared within 48 hours;
- C. Less than 12% of all installation appointments not met; and
- D. Less than a 9-day average delay for missed installation appointments.⁹⁹

Service quality data will be analyzed on a rolling one year basis.

The Maine Act provides a path to reducing FairPoint's COLR duties (including the removal of basic local service requirements and the potential for market-based price increases) but does not allow FairPoint to abandon service in any area without commission approval. In addition, the company may not increase prices for basic service for one year after the effective date of the Act and then may increase rates no more than 5% annually. FairPoint must continue to provide Lifeline service in areas where it was the COLR.

⁹⁶ Cable providers are included in the category of wireline service providers; thus, this requirement could be met in areas where a cable company provides service to the majority of homes.

⁹⁷ Id. at Sec. 5.A.1-2

⁹⁸ This requirement may prove difficult for the company. See Bangor Daily News, Maine regulators open investigation into FairPoint's 2015 service reports, March 29, 2016, available at <http://bangordailynews.com/2016/03/29/business/maine-regulators-open-investigation-into-fairpoints-2015-service-reports/>

⁹⁹ Id. at Sec. 5.1 I Interestingly, the Act provides for FairPoint's performance to remain confidential unless it misses the service quality requirements in 2 consecutive quarters.

To ensure that communications services in Maine continue to be universally available, the Act requires the Commission to report on the impact of the reduction in COLR requirements in January, 2018 and again in January, 2020. The report must include

The effect of the removal on [the] former provider of last resort service customers, the price cap ILEC's workforce, the maintenance and status of the copper line network, public safety and the cost, features and availability of telephone service, including service to the hearing impaired, and broadband service.¹⁰⁰

The report may also include recommendations for additional legislation, including recommendations for amending or repealing the Act.

2. California

California Assembly Bill 2395, An Act to add Section 711 to the Public Utilities Code relating to telecommunications, would provide a pathway to transitioning service from the existing copper-based public switched network (PSTN) to an IP-enabled network by the year 2020. While not focused on COLR requirements specifically, AB 2395 bill could limit COLR service in specific areas of the state by allowing carriers to withdraw switched basic local telephone service (POTS) from areas where an alternate service is available. The bill would require the carrier withdrawing service to conduct an education campaign to explain the transition to California consumers and to prove that alternative service is available.

The bill would require the alternate service to provide a limited set of functions, including:

- (1) Voice grade access to the public switched telephone network or its successor.
- (2) Real-time, two-way voice communications.
- (3) Access for end users of those services to the local emergency telephone systems . . . and, where available, to enhanced 911.
- (4) Alternative services requiring a residential power supply to operate are in compliance with the backup-battery capability standards established by the Federal Communications Commission.¹⁰¹

These requirements would reduce the state's current requirements for basic local service, including withdrawing the requirement that carriers provide access to directory services, 800 services, and other specialized services and modifying billing and tariff requirements.

The CPUC bill analysis points to language allowing carriers to withdraw from certain areas of the state, resulting in the elimination of basic local service and COLR duties in those locations. According to the California Public Service Commission's legislative memo on the bill,

¹⁰⁰ Id. at Section 7

¹⁰¹ California Assembly Bill AB 2395, Telecommunications: replacement of public switched telephone network, Legislative Summary, available at <https://legiscan.com/CA/bill/AB2395/2015>

AB 2395 ends [the] obligation to offer basic service to serve all residential households on a non-discriminatory basis in a carrier's franchise area. It allows a telephone corporation (carrier) to discontinue any voice grade single-line circuit-switched telephone service including basic service . . . and Lifeline telephone service via landline to . . . more than 600,000 low-income Californians.¹⁰²

The sponsors of the bill point out that a significant number of California residents have already moved to alternative services and that rather than eliminating COLR requirements, the bill offers a path to expanding the types of service available to customers. They point out that AB 2395 provides a path to the elimination of circuit switched TDM voice service only where the option for alternative service is available. To ensure that no customer is left behind, the bill would establish a process for the state commission to validate that the replacement service meets the requirements for basic local service as defined by the bill. No service may be eliminated without commission approval.

If the commission determines that an alternative service is not available to the customer at the customer's location, the commission shall order the withdrawing telephone corporation to provide voice service to the customer at the customer's location for a period no longer than 12 months after withdrawal. The withdrawing telephone corporation may utilize any technology or service arrangement to provide the voice services as long as it meets the requirements [established by the bill for basic local voice service].¹⁰³

The process established by AB 2395 would not take effect until 2021, but may be a precursor to legislation in other states to remove COLR obligations and allow the migration to a fully IP network.

3. Minnesota

On the opposite end of the spectrum, Minnesota bill H.F.1066 preserves (and potentially expands) the requirement that carriers provide basic local service even as regulation is relaxed.¹⁰⁴

H.F. 1066 will reduce oversight and allow an incumbent local exchange carrier to be regulated as a competitive provider in areas where it meets specific competitive criteria.

(1) It serves fewer than 50 percent of the households in an exchange service area, and at least 60 percent of households in the exchange service area can choose voice service from at least one additional unaffiliated competitive service provider; or (2) It serves more than 50 percent of the households in an exchange service area, and at least 60 percent of households in the exchange service area

¹⁰² CPUC Staff Memo, Summary of Analysis of AB 2395, April 28, 2016

¹⁰³ Id. Section 711(f)

¹⁰⁴ HF 1066 was enacted into law as Chapter 115 of 2016 Minnesota Laws.

can choose voice service from at least one additional unaffiliated competitive service provider; (ii) No significant economic, technological, or other barriers to market entry and exit exist; (iii) No single provider has the ability to maintain prices above competitive levels for a significant period of time or otherwise deter competition.¹⁰⁵

Carriers choosing to be regulated under the rules outlined in H.F. 1066 must continue to offer basic local service under current tariffs. The cost of basic local service may not be increased prior to January 1, 2018. After that date, carriers may not increase rates more than \$2.00 per month, with a not-to-exceed rate of \$25.00. This rate may not be increased until December 31, 2023, after which basic local services rates may not be increased each year by more than \$2 monthly, unless the Commission finds that such increase produces “substantial consumer harm.”

B. Broadband

As the technology transition accelerates, customers will continue to move to IP-enabled products like VoIP, cable voice and broadband offerings, and ILEC broadband services such as AT&T's UVerse and Verizon's FiOS. The decline in traditional voice-only customers will encourage COLRs to seek to withdraw COLR service from areas with competition or to offer service using alternative technologies. This change raises questions about the potential for states to name a broadband COLR and/or to adjust COLR duties to include broadband access.

The question of adding broadband access to COLR duties is particularly relevant given the transition of Lifeline from a voice to a broadband service. Although broadband ETCs will be designated by the FCC and follow federal rather than state regulations, they will offer services that will generally mirror existing requirements for voice COLRs and ETCs. How will the increase in broadband availability impact COLR requirements?

The FCC's description of the Broadband Lifeline program suggests the ultimate goal, first expressed in the National Broadband Plan, of making broadband universally available. Such a goal suggests the idea that the FCC and the states must ultimately provide a way to ensure that there is a broadband carrier of last resort available in each jurisdiction across the country.

Much like telephone service a generation ago, broadband has evolved into the essential communications medium of the digital economy, continuing to transform the landscape of America even more rapidly and pervasively than earlier infrastructure networks. . . . Access to broadband shortens the distance to high-quality education, meaningful employment, and reliable healthcare. It is

¹⁰⁵ H.F. 1066, A bill for an act relating to telecommunications; providing for competitive market regulation for certain local exchange carriers, available at <https://www.revisor.mn.gov/laws/?year=2016&type=0&doctype=Chapter&id=115>

now the dominant technology used to communicate, educate, inform, and entertain.¹⁰⁶

As broadband Lifeline proliferates, states may consider modifying COLR duties where possible to focus them on alternate technologies such as broadband. As NRRI pointed out in its 2009 study of COLR,

States and the federal government seem to agree that every American citizen and every American business should have access to robust broadband services. State roles in promoting broadband can include taking a supporting role in federal programs (including grant funding), providing state funding for broadband expansion, and directly applying COLR-like policies to broadband facilities.¹⁰⁷

V. Conclusions and recommendations

COLR policies have been a critical part of ensuring universal access to telecommunications services. Competition and the transition to broadband have reduced but not eliminated the need to designate a carrier that will be available to provide service in areas where competition has not taken root. The COLR would continue to be designated by the state commission but need not be the ILEC or provide service using a specific technology.

A 2013 report from the FCC Intergovernmental Advisory Committee crystallizes this issue and suggests ways in which federal and state regulators might approach it.

In a competitive environment in which wire, wireless, IP-based, satellite and other technologies exist to move voice and data communications, a legitimate question exists as to whether the requirement for a designated carrier of last resort should remain.

In a competitive marketplace in which the carrier of last resort requirement is eliminated or severely reformed through legislative or regulatory actions, how will the FCC or state regulators ensure that all residents have access to adequate telecommunications services from their primary place of residence – “adequate”

¹⁰⁶ In the Matter of Lifeline and Link Up Reform and Modernization Telecommunications Carriers Eligible for Universal Service Support Connect America Fund, WC Docket No. 11-42, WC Docket No. 09-197, WC Docket No. 10-90, Third Report and Order, Further Report and Order, And Order On Reconsideration (Lifeline Modernization Order), available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-38A1.docx

¹⁰⁷ Bluhm, Peter and Phyllis Bernt, Carriers of Last Resort: Updating a Traditional Doctrine, Report 09-10, National Regulatory Research Institute, July 2009, available at http://nrri.org/download/2009-10-carriers-of-last-resort_-updating-a-traditional-doctrine/

meaning an acceptable and measurable standard and quality of services and affordability?¹⁰⁸

COLR policies provide a backstop for areas where competitive carriers may choose to withdraw service and those areas where carriers may fail or may abandon service altogether. In these areas, the designation of a carrier of last resort remains important rather than anachronistic. COLR duties remain a key means of ensuring the universal availability of both voice and broadband services. The modifications to these requirements described in this paper, including limitations on COLR service where competition provides customers with options and the acceptance of alternate technologies will help to ensure that this requirement remains viable as the network transitions to broadband and beyond.

States considering legislation to change or abandon COLR requirements should consider the following questions in developing their recommendations on this critical subject.

- How should COLR requirements be defined? Should they be broadened to include broadband as well as voice?
- Should COLRs be required to offer basic service? And, if so, what are the minimum requirements for a 21st century telecommunications service?
- Is competition in an area where limitations on COLR service are proposed sufficient to ensure that at least one carrier capable of offering service to all will remain? How often should the level of competition be reviewed?
- How should competition be measured? Must a competitive provider be available to all customers in an area before the existing COLR is allowed to exit?
- What process should the state use to ensure that competition continues to provide affordable service, available to all?
- What has been the effect on consumers, businesses, and carriers of reductions in COLR requirements?

COLR policies give regulators a tool to ensure that no user is left behind when a carrier seeks to discontinue service. States should review their COLR policy on an on-going basis to ensure that all citizens have access to affordable service that meets their needs. States and carriers can work together to develop a new regulatory compact that maintains the best parts of both carrier of last resort duties and competitive offerings.

COLR is not an anachronism, but is a living regulatory compact that must be evaluated and modified on an on-going basis.

¹⁰⁸ Intergovernmental Advisory Committee to the Federal Communications Commission, Policy Recommendation 2013-3, Regarding Technological transition from the Legacy Copper Wire Infrastructure to Newer Technologies, available at <https://www.fcc.gov/statelocal/recommendation2013-03.pdf>

Appendix A

2016 NRRI COLR SURVEY

This survey requests input on the Carrier of Last Resort (COLR) requirements in your state. We are particularly interested in whether the COLR requirements are statutorily mandated and whether recent legislation has modified or eliminated COLR. The survey data will be used as the basis for an NRRI paper reviewing the status of COLR requirements across the states.

Return the survey to Sherry Lichtenberg, slichtenberg@nrri.org, by February 25, 2016

Respondent Contact Information:

Name: _____ State: _____
Telephone number: _____
Email _____

Questions:

1. Does your state have COLR requirements? Y _____ N _____
2. What is the regulatory authority for COLR requirements in your state?
 - a. Are the COLR requirements in your state defined by statute, Commission Rule, Commission Order, or some combination of the three?
 - b. Do your state's statutes expressly define COLRs?
 - c. Do the statutes define provider-specific requirements for COLRs? If yes, please provide the definition. _____
 - d. If the answer to b is No, does your state commission impose a COLR requirement under a general grant of authority? If so, please explain.

3. Please provide a link to the legal authority governing COLR requirements in your state.
4. How many COLRS are currently operating in the state? _____
 - a. Please provide the names of the COLRs operating in your state, and indicate which (if any) of these COLRs is classified as a price cap carrier by the FCC?
5. Please describe the COLR requirements and obligations in your state.
 - ___ COLR must provide service to any customer on demand.
 - ___ COLR must provide service to any customer on demand but may charge for line extensions or other service.

___ COLR must provide service using a specific technology; for example, copper.
___ COLR service is not required where there is a competitive provider.

6. Do your state COLR requirements vary by carrier or carrier type? If so, how?
7. Does your state commission retain oversight of COLRs if they provide services using an alternate technology like VoIP or wireless?
8. Are the COLR requirements in your state tied to ETC designations and associated requirements? Y _____ N _____
 - a. Would the elimination of ETC designations and obligations impact COLR obligations in your state? Y _____ N _____
 - b. If the answer to b was Y, how?
9. Is there an established mechanism or process by which a carrier may eliminate its COLR obligations in all or part of its territory? Y _____ N _____
 - a. If Y, what is the process?
 - b. Have any carriers have utilized this process in the last 3 years? Y ____ N _____
 - c. How did the carrier provide notice to the Commission, the FCC, to customers?
10. Has your state addressed COLR for new construction?
 - a. Must the ILEC provide service for new construction?
 - b. If a new development has chosen an alternate supplier, must the ILEC provide service there on demand?
11. Has your state eliminated or modified its COLR requirements Y____ N _____
 - a. When did your state eliminate or modify its COLR requirements?
 - b. How did the requirements change?
 - c. How were customers notified?
 - d. Please provide a link to the legislation or regulations modifying these requirements.

Please return this survey to Sherry Lichtenberg, slichtenberg@nrri.org, by February 25, 2016.

Appendix B–Survey Responses

State	COLR Requirement				Enabling statute	Notes	Linked to ETC Reqs?	Rules Modified
	Explicit	Implicit	Limited	No				
AL			X		Code of AL, 37-2A-2 and 37-2A-8	Requirements apply to ILECs only. No oversight if svc provided w alt. tech. ILEC relieved of the obligation upon notification to commission.	No	2012 legislation reduced BLS reqs. ILEC must provide svc on demand unless another carrier is available to do so. Req. repealed 9/13
AK	X				3AAC 52.381-385 (IXC), 3 AAC 53.265, 3 AAC 53.345 (LEC)	Defined by regulation; may be modified or reassigned by commission order. COLR obligations could be reassigned to a facilities based competitor.	No	LEC COLR obligations specified in 2011 via Commission order on USF.
AZ	X				AZ constitution, Art. 15, Sec. 3	Oversight regardless of technology. No process to relinquish COLR designation.	No	No
AR				X		Carriers that accept HCS "agree" to provide svc to all, but no formal req.		
CA	X				PUC Code §275.6(b)(1); Decision 12-12-038	Carrier may file petition to opt out of obligations.	No	
CO			X		§40-15-401	COLR in all areas until 7/1/16, then only HCF areas. Tied to BLS.	Yes. COLR in non-competitive areas with HCF.	2014 legislation
CT				X	N/A	N/A	No	No
DC				X	N/A	N/A	No	No
DE				X	N/A	N/A	No	2013. HB 96 deregulated telecom.

State	COLR Requirement				Enabling statute	Notes	Linked to ETC Reqs?	Rules Modified
	Explicit	Implicit	Limited	No				
FL				X	N/A	N/A	Yes. ETCs receiving FUSF have a Fed obligation to serve. Sec. 214 req. to discontinue svc.	2010. Deregulation.
GA			X		OCGA §46-5-169(2); Carrier may not refuse reasonable req for svc.	No COLR req for carriers who have selected alt reg and do not accept USF funds.	ETCs must continue to provide svc but may use any technology.	HB 1115, 2012
HI	No response							
ID			X		Idaho Code §62-616 and 62-610B(1)	BLS may not withdraw svc unless one or more alt suppliers provide same svc. Svc not req. in competitive areas.	Commission may impose COLR duties on ETCs.	No
IL		X			220 ILCS 5/13-406 IL Pubic Utilities Act	ICC may prohibit the discontinuance of non-competitive svc in incumbent territory. Competitive carriers may give 60 days notice of svc abandonment; must receive permission to drop ETC status.	COLR req tied to ETC designation; oversight technology related	2010 legislation allowed providers to discontinue or abandon individual competitive svcs w/o notice but req providers to notify users when discontinuing a svc completely

State	COLR Requirement				Enabling statute	Notes	Linked to ETC Reqs?	Rules Modified
	Explicit	Implicit	Limited	No				
IN	X				Indiana code 8-1-32.4; modified in 2012 by PL 8-2012)	COLR may drop designation w commission notification. COLRs seeking to leave must notify commission. No COLR has done this to date. Must be 2 other providers in franchise territory.	Yes. ETC regulations fulfill same purpose so no need for separate COLR designation.	PL 8-2012 provides rules for COLR to relinquish its obligations. Commission has no authority to review or approve.
IA	X				Iowa Code §476.29(5)	Each local exchange utility has an obligation to serve all eligible customers unless specifically exempted by IUB. Bd must approve carrier abandoning a mkt.	Not tied to ETC Req	No.
KS			X		KS statutes chapter 66; only ILECs (including rural ILECs); modified in 2011	Limited; carriers may opt out. AT&T has opted out.	No	2011 Amendment to KSA 66-2009
KY			X		www.lrc.ky.gov/statutes/statute.aspx?id=44031	No obligations in areas with >15K households. ETCs must continue to provide service even if they have elected dereg. Drop COLR by notifying commission. AT&T notified comm of exchanges where it would no longer offer BLS.	ETCs maintain the obligation to serve even in areas where COLR no longer required.	2015 legislation. No obligation to provide landline svc.

State	COLR Requirement				Enabling statute	Notes	Linked to ETC Reqs?	Rules Modified
	Explicit	Implicit	Limited	No				
LA	X				Commission Order, Sec, 601, Regs for Competition, 3/11/2014; Reqs apply to rural carriers only	May petition to drop COLR if a CLEC can provide svc. LECs in areas w/ single provider prohibited from dropping COLR req. One COLR has been relieved of its obligations.	No	GO R-31839 3/11/14; Nnn-rural COLR obligations sunset 12/31/13
ME	X				Statute, 35-A M.R.S. Sec. 7201 (7)	BLS only. PUC may relieve provider of power back up req. PUC may assign POLR duties to wireless or VoIP carrier and would then have oversight for POLR svc only. Potential legislation in 2016.	No	Potential legislation 2016
MD		X			VZ AFOR	AFOR to protect consumers by ensuring svc quality, availability, reliability. No method to discontinue req.	Not tied to ETC Req	
MA	X				Comm. Order, DPU 1731	Limited jurisdiction over wireless & VoIP COLRs; COLR may petition to be declared non-dominant and relieved of COLR reqs.	No	Non-dominant carriers may relinquish reqs.
MI			X		Statute; Section 313 MTA	BLES providers must follow procedure in MI Telecom Act (Sec 313) to discontinue svc.	No	3/2014, Act 52
MN		X			Combination of statute and rule	ILECs (incl rural cos.) are COLRs; oversight regardless of tech (other than nomadic VoIP). May be relieved by petition.	COLRs are automatically ETCs.	

State	COLR Requirement				Enabling statute	Notes	Linked to ETC Reqs?	Rules Modified
	Explicit	Implicit	Limited	No				
MS			X		Miss. Code Ann. §77-3-35	Code does not expressly define COLR. Not req. in competitive areas.	ETCs are COLRs; yearly Comm review/oversight	Legislation 2012; elim. req to provide svc for deregulated and de-tariffed svcs
MO			X		Sec. 386.020(6), RSP 392.460	Exemption for St. Louis County, St. Louis City, portions of Kansas City. COLR reqs for VoIP providers that are ILECs, Comm. Retains jurisdiction over COLRs providing svc using alternate technologies.	No	2011 legislation modified reqs.
MT				X	N/A	N/A	N/A	N/A
NE	X				Neb. Rev. Stat. §§ 86-101 et seq.	Statute doesn't use the term COLR but includes entry/exit/service obligations. Carrier may petition to abandon service.		2013; legislation to allow COLRs to apply for relief from obligations. AB 486
NV	X				NRS 704.18	COLRs are also Lifeline ETCs. COLR may file app to be relieved of obligation if there are alt suppliers. Comm may declare an emergency where alt svc not available		
NH	X				NH RSA 374:22-p and PUC 404.02; def of basic svc.	May not discontinue BLS w/o commission approval		2012. ILEC may raise rates for BLS by 10%/yr; CLECs no longer req to provide BLS. Rate increase rules expire 2020.
NJ	No response							
NM				X	N/A	N/A	N/A	N/A

State	COLR Requirement				Enabling statute	Notes	Linked to ETC Reqs?	Rules Modified
	Explicit	Implicit	Limited	No				
NY		X			NY PSC Competition 2 Order, 1994 and Comp 3 Order, 2006	Carriers may not withdraw or abandon svc w/o permission; BLS req., must be tariffed, may not be withdrawn w/o permission;	Yes. State USF to ensure universal svc availability	
NC			X		GS 62-110(f1), universal service provider	ILECs with a traditional price reg plan are COLRs; ILECs operating under dereg leg no longer COLRs	No	Multiple legislative changes since 2005
ND				X				
OH	X				4901:1-6-27 OAC and 4927.11 ORC	COLR tied to ETC for wireline; limited oversight of ETCs offering VoIP		HB 64. 9/29/15: ILEC may reninquish its obligation following FCC Section 214 approval; IP transition study
OK			X		OAC 165:55-13-12, Extension of facilities. Applies to carriers serving fewer than 75K lines.	CLEC COLR req in some CCNs. Req is technology neutral. Wireless not COLR may req waiver if line extension costs excessive.	Not tied to ETC designation	2012, AT&T exceeded 75K line threshold so req. eliminated.
OR	X				ORS §759.506	Carrier may be exempt from COLR reqs under limited circumstances in areas which have contracted w an alternate supplier	Yes	No

State	COLR Requirement				Enabling statute	Notes	Linked to ETC Reqs?	Rules Modified
	Explicit	Implicit	Limited	No				
PA	X				Statute and orders	Price rules for BLS lifted in competitive areas but COLR reqs continue. USF funds to COLRs only. Tied to ETC designations.	Yes. ETC regs provide quality of service oversight.	Reqs modified in 2015. VZ retained COLR obligations in competitive areas but no price regulation in those areas.
RI	No response							
SC	X				Statute §58-9-10(10); obligation to provide BLS	Must provide BLS to all residential and single-line business customers within their defined service area		
SD		X			SDCL 49-31-3.1	Price cap carriers may not discontinue svc without express commission approval.	Yes. ETCs must provide svc to all and meet quality standards	No
TN				X				
TX	No response							
UT		X			By practice; no statute or rule		Yes	No
VT		X			Board Order interpreting statute imposed by franchise. Docket 5713	A facilities based carrier has an obligation to serve. Carriers receiving HCS are COLRs. Incumbents may petition the Board for relief.	No	No
VA			X		Statute §56-234 Code of Virginia	Line extension not required in competitive areas. May fulfill obligation using any technology. Competitive svc must be "reasonably adequate."	No	2011, legislation changed req. from mandatory to conditional

State	COLR Requirement				Enabling statute	Notes	Linked to ETC Reqs?	Rules Modified
	Explicit	Implicit	Limited	No				
WA	X				Revised Code of WA 80.36.090, Service to be furnished on demand.	May drop COLR by filing tariff revising svc areas. 3 carriers have done so: Dockets UT-050606, UT-09022, UT-130948	No	No
WV	X				Comm Order	COLR must provide svc to all customers using any technology	No	No
WI		X			No express def. but s.196.503 reqs an ETC exist	ILEC would petition to withdraw svc., must provide BLS to all users wi territory. Any technology.	ETCs have a req to serve; ETC may petition to leave. Last ETC may not leave.	Statutes updated by legislation in 2011.
WY		X			Has not been addressed; would be combination of statute and rules, including CPCN reqs.	COLR must provide svc to all customers using any technology; may charge for line extensions	Yes	No

Bibliography

- Alabama Act 2012-181, An Act to Amend the code of Alabama, available at <https://legiscan.com/AL/bill/HB196/2012>
- AT&T, Comments of AT&T in the matter of Connect America Fund, A National Broadband Plan for our Future, Establishing Just and Reasonable Rates for Local Exchange Carriers, High-Cost Universal Service Support, Developing a Unified Intercarrier Compensation Regime, Federal-State Joint Board on Universal Service, Lifeline and Link Up, WC Dockets 10-90, 17-153, 05-337, 03-109, April 18, 2011, available at www.fcc.gov
- Bangor Daily News, Maine regulators open investigation into FairPoint's 2015 service reports, March 29, 2016, available at <http://bangordailynews.com/2016/03/29/business/maine-regulators-open-investigation-into-fairpoints-2015-service-reports/>
- Bernt, Phyllis, Ph.D., Universal Service in the National Broadband Plan: A Case for Federal-State Cooperation, *Journal of Information Policy*, Vol. 1 (2011), pp. 125-144, available at <http://www.jstor.org/stable/10.5325/jinfopoli.1.2011.0125>
- Bluhm, Peter, Dietrich, Natelle, and Ridgway, John, Carriers of Last Resort, eligible Telecommunications Carriers, and State Administrative Roles, Federal-State Joint Board on Universal Service, February 7, 2011, available at http://www.kcc.state.ks.us/telecom/roundtable032011/COLR_ETCs_and_State_Roles_White_Paper.pdf
- Bluhm, Peter and Phyllis Bernt, Carriers of Last Resort: Updating a Traditional Doctrine, Report 09-10, National Regulatory Research Institute, July 2009, available at http://nrri.org/download/2009-10-carriers-of-last-resort_-updating-a-traditional-doctrine/
- California Public Utility Commission, Order D.12-12-038, available at <http://docs.cpuc.ca.gov/DecisionsSearchForm.aspx>
- CPUC Staff Memo, Summary of Analysis of AB 2395, April 28, 2016
- California Assembly Bill AB 2395, Telecommunications: replacement of public switched telephone network, Legislative Summary, available at <https://legiscan.com/CA/bill/AB2395/2015>
- Cherry, Barbara A. (2007) "Maintaining Critical Rules to Enable Sustainable Communications Infrastructures," *Georgia State University Law Review*: Vol. 24: Iss. 4, Article 2. Available at: <http://readingroom.law.gsu.edu/gsulr/vol24/iss4/2>
- The Origin of Carrier of Last Resort Obligations, A presentation to the NARUC Winter Meeting, Washington, DC, February 2016; slides available from NRRI
- The Political Realities of Telecommunications Policies in the U.S.: How the Legacy Of Public Utility Regulation Constrains Adoption Of New Regulatory Models, 2003 *Mich. St. DCL L. Rev.* 757, Fall, 2003
- Code of Virginia, § 56-234. Duty to furnish adequate service at reasonable and uniform rates, available at <http://law.lis.virginia.gov/vacode/56-234/>

Colorado House Bill 14-1331 Concerning the Regulation of Basic Local Exchange Service as It Affects Effective Competition, and, in Connection Therewith, Making an Appropriation, available at

http://www.leg.state.co.us/clics/clics2014a/csl.nsf/fsbillcont3/4034ECA181A3A0D587257C9B00794391?open&file=1331_enr.pdf

Communications Act of 1934, Pub. L. No. 73-416, § 1 (1934) (codified as amended at 47 U.S.C. § 151) (creating the Federal Communications Commission), available at, available at

<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0ahUKEwjXwa3KkoTMAhXJez4KHe1RCvUQFggqMAM&url=https%3A%2F%2Fwww.fcc.gov%2Ftelecom.html&usg=AFQjCNFYBeekcRuniRpnJomJwOZ7NP9ueQ&sig2=gKWOC0pGCuSLfTmZ2xfctA&bvm=bv.119028448,d.cWw>

Digital Policy Institute, Telecom Regulatory Reform: Indiana Update 2012, available at

<https://cms.bsu.edu/-/media/WWW/DepartmentalContent/DPI/PDFs/FinalVersionofIndianaTemplate2012.pdf>

Energy Vortex, Energy Dictionary, available at

https://www.energyvortex.com/energydictionary/EnergyVortex_Home_Page.htm

Federal Communications Commission, Connecting America: The National Broadband Plan (2010), available at <http://www.broadband.gov/plan>

In the Matter of Lifeline and Link Up Reform and Modernization Telecommunications Carriers Eligible for Universal Service Support Connect America Fund, WC Docket No. 11-42, WC Docket No. 09-197, WC Docket No. 10-90, Third Report and Order, Further Report and Order, And Order On Reconsideration (Lifeline Modernization Order), available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-38A1.docx

Technology Transitions, Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers, Special Access for Price Cap Local Exchange, AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, GN Docket No. 13-5, RM-11358, WC Docket No. 05-25, RM-10593, FCC 15-97 (rel. Aug. 7, 2015) (Further Notice) (Technology Transitions NPRM) (Copper Retirement NPRM)

https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-97A1.pdf Florida Statutes (2015), Chapter 364, Telecommunications Companies, available at

http://www.leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&URL=0300-0399/0364/0364.html

Georgia Code, §46-5-1 (5), 46-5-165, 46-5-167, and 46-5-169, available at

<http://www.lexisnexis.com/hottopics/gacode/>

Indiana Code 8-1-32.4-17, available at <http://www.in.gov/iurc/2657.htm>

Idaho Code § 62-616 and § 62-610B(1), available at

<http://www.legislature.idaho.gov/idstat/Title62/T62CH6SECT62-610.htm>

Intergovernmental Advisory Committee to the Federal Communications Commission, Policy Recommendation 2013-3, Regarding Technological transition from the Legacy Copper Wire

- Infrastructure to Newer Technologies, available at <https://www.fcc.gov/statelocal/recommendation2013-03.pdf>
- Kansas Statutes 66-2005(x) and (z), available at http://www.ksrevisor.org/statutes/chapters/ch66/066_020_0005.html
- Kentucky Bill HB 152, An Act Relating to Telecommunications (2015), available at <http://www.lrc.ky.gov/record/15rs/HB152.htm>
- Levin, Stanford and Stephen Schmidt, After Telecom Competition, What's Left for Regulators to Do? (2010) "Telecommunications after competition: challenges, institutions, regulation", info, Vol. 12 Iss: 2, pp.28 – 40 Southern Illinois University Press, available at http://www.siu.edu/text/business/econfin/facpages/pdf/After_Competition.doc
- Lichtenberg, Sherry, Ph.D. Examining the Role of State Regulators as Telecommunications Oversight is Reduced, National Regulatory Research Institute, Report No. 15-07, August 2015, available at <http://nrri.org/download/nrri-15-07-telecom-regulation/>
- Louisiana Public Service Commission, General Order No. R-31839, In re: Petition for Modification of Rules and Regulations Necessary to Achieve Regulatory Parity and Modernization, 3/11/14, available at <http://lpscstar.louisiana.gov/star/portal/lpsc/PSC/PSCDocumentDetailsPage.aspx?DocumentId=d9abb475-11cb-4e7b-9c04-d5e9d6928c87&Class=Order>
- Maine Revised Statutes 35-A M.R.S. Sec. 7201 (7) and 7221(3), available at <http://legislature.maine.gov/statutes/>
- House Bill 305, An Act to Increase Competition and Ensure a Robust Information and Telecommunications Market, Public Law, Chapter 42, available at <https://legiscan.com/ME/bill/LD466/2015>
- Maryland Public Service Commission, Cases Nos. 9072, 9114, 9120, 9121, 9123, and 9133, (Verizon AFOR), available at http://webapp.psc.state.md.us/newIntranet/Casenum/submit_new.cfm?DirPath=C:\Casenum\9100-9199\9133\Item_145\&CaseN=9133\Item_145
- Massachusetts Department of Public Utilities, Order 1731, Petition for a Generic Adjudicatory Proceeding Concerning Intrastate Competition , 12/30/85
- Merriam Webster Dictionary, available at <http://www.merriam-webster.com/dictionary/common%20carrier>
- Minnesota Administrative Rules, Chapter 7288, Small Local Providers, available at <https://www.revisor.mn.gov/rules/?id=7811>
- Chapter 7812, Telecommunications, Large Local Providers, available at <https://www.revisor.mn.gov/rules/?id=7812>
- Minnesota Statutes (2015), Chapter 237, Telephone, Telegraph, and Telecommunications, available at <https://www.revisor.mn.gov/statutes/?id=237>

- Minnesota Bill H.F. 1066, A bill for an act relating to telecommunications; providing for competitive market regulation for certain local exchange carriers, available at <https://legiscan.com/MN/text/HF1066/2015>
- Mississippi HB 825, available at Mississippi HB 825, available at <http://billstatus.ls.state.ms.us/2012/pdf/history/HB/HB0825.xml>
- Missouri Revised Statutes, 392.460.1, available at <http://www.moga.mo.gov/mostatutes/stathtml/39200004601.html>
- Morey, Mathew J. and Laurence D. Kirsch, Retail Choice In Electricity: What Have We Learned In 20 Years? Christensen Associates Energy Consulting LLC, 2/11/16, available at http://electricmarketsresearchfoundation.org/uploads/3/4/4/6/34469793/retail_choice_in_electricity_for_emrf_final.pdf
- National Association of Regulatory Utility Commissioners, Federalism Task Force Report: Cooperative Federalism and Telecom in the 21st Century, November, 2013, available at <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwjiuseD0J3NAhXGdz4KHf9SDYEQFggcMAA&url=http%3A%2F%2Fpubs.naruc.org%2Fpub%2F0D53064E-9E9C-0929-9D01-FDBF631704F5&usq=AFQjCNFGPQN7KcMwRFuhpjYlhzGVMaCXYQ&sig2=jXdOsrvoIc3znC9RAmpu-w&bvm=bv.124088155,d.cWw>
- Nevada Revised Statutes, NRS 704.018 and 704.023, available at <https://www.leg.state.nv.us/nrs/NRS-704.html>
- North Carolina Statutes, G.S. 62-133.5(m), available at http://www.ncleg.net/enactedlegislation/statutes/html/bychapter/chapter_62.html
- Ohio Administrative Code, Section 4901:1-6-27v1, available at <http://codes.ohio.gov/oac/4901:1-6-27v1>
Ohio Revised Code, Title 49, Section 4927, 11, available at <http://codes.ohio.gov/orc/4927.11>
- Oklahoma Administrative Code, Section 165:55-13-12(a) Title 165. Corporation Commission , Chapter 55. Telecommunications Services Permanent Rules Amended, Effective 9-12-2014, available at <http://www.occeweb.com/rules/CH%2055%20Effective%209-12-2014%20searchable.pdf>
- Pennsylvania Public Utility Code, 66 Pa. C.S. § 1501 and 3012(a)(2), available at <http://www.legis.state.pa.us/WU01/LI/LI/CT/HTM/66/66.HTM><http://www.legis.state.pa.us/WU01/LI/LI/CT/HTM/66/66.HTM>
- Pennsylvania Public Utility Commission, Investigation Regarding Intrastate Access Charges and IntraLata Toll Rates of Rural Carriers and the Pennsylvania Universal Service Fund., Docket Nos. I-00040105 and C-2009-2098380 (Order entered July 18, 2011)
- Joint Petition of Verizon Pennsylvania LLC And Verizon North LLC for Competitive Classification of all Retail Services in Certain Geographic Areas and for a Waiver of Regulations for Competitive Services, Docket Nos. P-2014-2446303 and P-2014-2446304 (Order entered March 4, 2015)

Pociask, Steve and Joseph P. Fuhr, Jr., Concentration by Regulation: How the FCC's Imposition of Asymmetric Regulations Are Hindering Wireline Broadband Competition in America, The American Consumer Institute, January 2016, available at <http://www.theamericanconsumer.org/wp-content/uploads/2016/01/ACI-Concentration-by-Regulation-FINAL-1.pdf>

Public Service Commission of New York, Competition 3 Order, 2006

Public Utility Commission of Ohio, Fact Sheet, Telephone network transition in Ohio, available <http://www.puco.ohio.gov/puco/index.cfm/information-by-industry/telephone-consumer-information/#sthash.rSyHOjIR.dpbs>

Public Utility Commission of Pennsylvania, Investigation Regarding Intrastate Access Charges and IntraLata Toll Rates of Rural Carriers and the Pennsylvania Universal Service Fund., Docket Nos. I-00040105 and C-2009-2098380 (Order entered July 18, 2011), and the Joint Petition of Verizon Pennsylvania LLC And Verizon North LLC for Competitive Classification of all Retail Services in Certain Geographic Areas and for a Waiver of Regulations for Competitive Services, Docket Nos. P-2014-2446303 and P-2014-2446304 (Order entered March 4, 2015)

Public Utility Commission of Texas, Provider of Last Resort, available at <http://www.puc.texas.gov/consumer/electricity/polr.aspx>

South Carolina Code of Laws, Title 58, Chapter 9, Article 1, §58.9.10(9), available at <http://www.scstatehouse.gov/code/t58c009.php>

State of Vermont Public Service Board, Order, Docket No. 5713, Investigation into New England Telephone and Telegraph Company's (NET's) tariff filing re: Open Network Architecture, including the unbundling of NET's network, expanded interconnection, and intelligent networks in re: Phase II, Module One, 02/04/99

Telecommunications Act of 1996, Pub. L. No. 104-104, § 101(a) (1996) (codified at 47 U.S.C. § 254(b))

USAID/Caucasus Office Of Economy, Energy And Environment USAID Hydro Power and Energy Planning Project (HPEP), Overview of Supplier of Last Resort (SOLR) and Customer Switching Rules, August 4, 2014, available at <https://dec.usaid.gov/dec/GetDoc.axd?ctID=ODVhZjk4NWQtM2YyMi00YjRmLTkxNjktZTcxMjM2NDNmY2Uy&pID=NTYw&attchmnt=VHJlZQ==&rID=MzUxMTQz>

US Legal, Legal Terms, Definitions, and Dictionary, available at <http://definitions.uslegal.com/>

West's Encyclopedia of American Law, edition 2. The Gale Group, 2008, available at <http://legal-dictionary.thefreedictionary.com/common+carrier>

Wisconsin Statutes, 160.13(9) and 160.13 (12), Designation of Eligible Telecommunications Carriers, available at https://docs.legis.wisconsin.gov/code/admin_code/psc/160/13

Yadon, Robert E., Ph.D.; Barry D. Umansky, J.D.; and Paul A. Coomes, Ph.D., Telecom Regulatory Review: Kentucky 2014, Digital Policy Institute, March 2014, available at <http://www.coffee.digitalpolicyinstitute.com/coffeewp/publications/>