A LONG WAY FROM *BRADY:* THE IMPACT OF DIGITAL INFRASTRUCTURE & E-DISCOVERY PRACTICES ON STATE DISCOVERY OBLIGATIONS IN CRIMINAL CASES

BENJAMIN SCOTT BASILIO*

"It is change, continuing change, inevitable change, that is the dominant factor in society today. No sensible decision can be made any longer without taking into account not only the world as it is, but the world as it will be . . ."

- Isaac Asimov

The protection of a defendant's rights in the criminal justice system is often balanced against concerns of judicial efficiency and accuracy, as well as the ability of prosecutors' offices to effectively pursue convictions. In many jurisdictions, the obligations of prosecutors to turn over evidence remain largely unaltered from constitutional minimums. Such conservative approaches exist in stark contrast to more open-file systems that make use of digital infrastructure and e-discovery practices to alleviate many of the original concerns surrounding such higher standards. This note discusses these different approaches as well as the general development of state discovery obligations and concludes by suggesting how those jurisdictions that still adhere more closely to constitutional minimums might discover gains through the use of digital infrastructure that supports a higher level of prosecutorial responsibility.

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INTRODUCTION

Although large law firms in the civil realm are well-experienced by now in the intricacies of electronic discovery, or "e-discovery," the same cannot be said for a large portion of offices operating in the criminal sphere. While our daily lives become increasingly dependent on our use of technology, so too have many crimes and the investigation of them.[1] Due to the shift toward digital wiretaps and the collection of photographs, texts, location data, and other digital information, prosecutors and defense attorneys have adapted to form more collaborative methods of sharing electronically-stored information ("ESI").[2] Yet, despite these trends, the broader requirements toward state disclosure of discovery are often left to be enhanced to accommodate such technological developments by local judicial officers or the coordination of the parties rather than by coordinated state or federal reform.[3]

These trends are curious considering the expansion of constitutional protections and mandates in response to other technological developments, seen most notably in the First Amendment's protection of free speech and the Fourth Amendment's guarantee against unreasonable search and seizure.[4] While these protections have been expanded to address the development of new technologies as substantive issues come to light, procedural requirements toward discovery held to be derived from constitutional language,

1. Jenia I. Turner, *Managing Digital Discovery in Criminal Cases*, 109 J. CRIM. L. & CRIMINOLOGY 237, 239 (2019).

2. *Id.* at 272.

3. *Id.* at 240–41.

4. *E.g.*, David S. Han, *Constitutional Rights and Technological Change*, 54 U.C. DAVIS L. REV. 71, 77 (2020) (explaining how "courts have often been called upon in recent years to reconcile these technological developments with the existing body of constitutional rights doctrine," and that "[i]n the Fourth Amendment context, for example, the Court has dealt with the advent of the automobile, the telephone, and aerial surveillance. Similarly, in the First Amendment context, the Court has dealt with the development of sound amplification, the rise of radio and television, and the emergence of motion pictures and video games.").

as in *Brady v. Maryland*,[5] have yet to be substantially altered since the development of the internet and ESI-specific evidence sharing practices. Certainly, courts have not ignored the many new forms of evidence that have resulted from technology in applying *Brady*, but the general standard established by that case and its progeny has not shifted away from those original concerns over judicial efficiency and prosecutorial effectiveness.[6]

By engaging in an inquiry into the degrees to which individual jurisdictions have departed from *Brady*, and by looking specifically to the role technology has played in enabling these reforms, one is able to better understand the direction that discovery jurisprudence is heading. Additionally, those jurisdictions which still adhere more closely to *Brady* minimums might find useful methods of enhancing judicial efficiency and prosecutorial justice by casting away old concerns and embracing the gains provided through the use of digital infrastructure.

Part I of this note provides historical context for the constitutional minimums of state discovery in criminal cases and outlines the evolution of a defendant's right to discovery. Parts II, III, and IV discuss the modern approaches of South Carolina, New York, and Colorado, respectively, focusing on the language of those states' criminal rules of procedure and the ways in which their requirements impact the responsibilities of prosecutors and availability of materials to criminal defendants. Part V analyzes these varied approaches against evolving trends in the area of criminal discovery and goes on to propose a technology-conscious model for reform. This note concludes by discussing remaining concerns surrounding the implementation of such reforms.

I. HISTORICAL BACKGROUND & THE CURRENT STATE OF MANDATED STATE DISCOVERY IN CRIMINAL CASES

While every jurisdiction in the United States today recognizes a defendant's right to receive discovery to some degree, historically speaking, this right is a relatively new development. Beginning in the last century or so, courts have trended toward notions of fundamental fairness in criminal proceedings even while nominally rejecting a "sporting chance" theory of criminal justice.[7] Questions of prosecutorial responsibility and judicial efficiency often fall at the

5. Brady v. Maryland, 373 U.S. 83 (1963).

6. *See* discussion, *infra* Section I.B.

7. *Brady*, 373 U.S. at 90; *cf.* Lafler v. Cooper, 566 U.S. 156, 186 (2012) (Scalia, J., dissenting) (denouncing the majority's decision as promoting a sporting theory of justice (which Scalia described as one "giving each player a fair chance to beat the house, that is, to serve less time than the law says he deserves"), and warning that the Supreme Court should avoid subscribing to such a doctrine).

forefront of these discussions, and yet in many cases it is often the prosecutors, or government, that argue such expansions of due process would unfairly hinder their ability to pursue justice. In order to better understand *Brady* and the role technology might play in shaping discovery obligations, it is useful to see how such requirements have come to be in the first place.

A. Limited Discovery in Common Law Roots

Modern discovery practices are, as one can imagine, significantly more expansive than those used in early common-law courts of England. While the liberal use of discovery dates largely from the mid-nineteenth century, the practice existed in some form as far back as the fourteenth and fifteenth centuries.[8] When early courts of equity emerged during this period, there was a shift away from the fact-finding mission of the local jury pool and tribunal toward the presentation of evidence and testimony directly from the parties.[9] Even as far back as the fourteenth and fifteenth centuries, courts recognized that the mere fact the parties *should* disclose the truth to the tribunal did not always ensure this actually occurred; it was here that specifically mandated disclosures by the overseeing chancellor, as representative of the king, served to "compel appearance, force disclosure of pertinent facts, and [reach] a just decision."[10]

It is worth noting that these early disclosures were very different from what we know today. They were mandated largely for the benefit of the decisionmaker, as opposed to the parties in crafting their cases prior to trial.[11] Additionally, the limitations on disclosures notably differed from today's standards in that these disclosures involved an inquiry into admissibility in the first place, and that they present some use toward a certain side's case as opposed to simply pertaining to the matter at hand.[12] Moreover, often the defendant (at least in civil matters) faced sanctions for non-compliance with such orders but held little reciprocal power to compel discovery without a separate proceeding of their own (often a cross-bill—essentially a counter-cause of action).[13] Criminal discovery evolved from these early roots and contains similar imbalances even in the later American system.

8. Alan K. Goldstein, *A Short History of Discovery*, 10 ANGLO-AM. L. REV. 257, 257 (1981).

9. *Id.* at 258.

10. *Id.* at 259.

11. *Id.*

12. *Id.* at 260.

13. *Id.* at 261.

B. American 20th Century Shifts

Brady v. Maryland was decided in 1963 following a string of Supreme Court decisions expanding the protections of the Due Process Clause of the 14th Amendment. While these cases dealt with prosecutorial misconduct, the basic notion that the court was concerned with the false presentation or suppression of valuable evidence began to be seen in the likes of *Mooney v. Holohan* (1935),[14] *Pyle v. Kansas* (1942),[15] and *Alcorta v. Texas* (1957).[16] Indeed, legal scholars in this area began to recognize that:

> While the case law at the present time (1966) would support the statement that in criminal cases the accused has, if any, only a very limited right to discovery, there appears to be a definite trend toward a more liberal rule . . . . One may hazard a guess that, other things being equal, this trend toward liberality will continue, primarily as a result of the "bleeding over" into the criminal area of the attitudes which have developed in connection with the liberal civil discovery rules now adopted in many jurisdictions.[17]

The Supreme Court in *Brady* held that due process requires the prosecution to disclose evidence to the defense upon request and only when that evidence is material to guilt or punishment.[18] From this, a *Brady* violation occurs when evidence is favorable to the accused as a result of it being exculpatory or impeaching. That evidence is then withheld by the state, either willfully or inadvertently.[19] Later cases would further expand the breadth of the *Brady* test by determining that nonfeasance on the part of prosecutors could give rise to a violation,[20] and that even in cases where the defendant does not make a request for *Brady* material, the prosecution's non-disclosure of such evidence constitutes a violation.[21]

14. Mooney v. Holohan, 294 U.S. 103 (1935).

15. Pyle v. Kansas, 317 U.S. 213 (1942).

16. Alcorta v. Texas, 355 U.S. 28 (1957).

17. C.P. Jhong, *Right of Accused in State Courts to Inspection or Disclosure of Evidence in Possession of Prosecution*, 7 A.L.R.3d 8, § 2(b) (originally published in 1966).

18. Brady v. Maryland, 373 U.S. 83, 87.

19. *Id.* Note that there is often also a determination of prejudicial effect of the suppression in question for *Brady* violations, but this question is in practice often quickly answered via a determination on the initial question of materiality.

20. Giglio v. United States, 405 U.S. 150, 154–55 (1972) (holding that a prosecutor's failure to inform defendant that an adverse witness was made promises that the state would not charge the witness with certain crimes in exchange for their testimony was a failure of their prosecutorial duties and constituted a Due Process violation).

21. United States v. Agurs, 427 U.S. 97, 107 (1976) (holding "if the evidence is so clearly supportive of a claim of innocence that it gives the prosecution notice of a duty to produce, that duty should equally arise even if no request is made.").

United States v. Bagley established the current test for determining whether evidence is actually "material" as required by *Brady*—material evidence exists when there is a reasonable probability that its disclosure would have changed the outcome of the proceeding.[22] The Court in *Bagley* held that "a reasonable probability is a probability sufficient to undermine confidence in the outcome."[23] It is worth noting that although the prosecution has a duty to disclose, the Court has held a defendant has no general right to discovery in criminal cases.[24]

The motivations for the Court's decision in *Brady* centered around concerns over judicial efficiency and accuracy, with the Court highlighting how the legitimacy of the prosecutor can affect the image of the whole justice system:

> An inscription on the walls of the Department of Justice states the proposition candidly for the federal domain: "The United States wins its point whenever justice is done its citizens in the courts." A prosecution that withholds evidence on demand of an accused which, if made available, would tend to exculpate him or reduce the penalty helps shape a trial that bears heavily on the defendant. *That casts the prosecutor in the role of an architect of a proceeding that does not comport with standards of justice* . . . .[25]

It is from such language that many have come to believe that the spirit of *Brady* should stand for unfettered access to the prosecution's evidence in the form of an open-file system.[26] But specific concerns and criticisms of open-file systems still exist. These include concerns that increased discovery would strain already underpaid and over-worked defenders,[27] flood courts with additional post-conviction appeals,[28] or leave defense attorneys with false confidence that they have received all evidence from a malicious prosecutor under the guise of mandated discovery.[29]

22. United States v. Bagley, 473 U.S. 667, 682 (1985).

23. *Id.* at 669.

24. Weatherford v. Bursey, 429 U.S. 545, 559 (1977).

25. Brady v. Maryland, 373 U.S. 83, 87 (1963) (emphasis added).

26. Brian P. Fox, *An Argument Against Open-File Discovery in Criminal Cases*, 89 NOTRE DAME L. REV. 425, 434 (2014).

27. *Id.* at 437–39.

28. *Id.* at 440–43 (arguing that the gains of expanding Brady's breadth would be offset by the flood of post-conviction claims post-trial, resulting in a zero-sum outcome in terms of improving judicial accuracy and efficiency).

29. *Id.* at 446 (citing the high-profile Duke Lacrosse Case as one example where open-file systems may fail to provide for the kind of exchange of exculpatory information desired in the name of judicial accuracy. Bennett L. Gershman, *Litigating* Brady v. Maryland: *Games Prosecutors Play*, 57 CASE W. RES. L. REV. 531, 546 (2006)).

C. E-Discovery as Part of State Obligations

The rise of cybercrime is not the only cause of increased evidentiary burdens in the digital age. As technology continues to become more central in our daily lives, so too have the digital footprints left by crimes become an invaluable tool for investigators and prosecutors. Current Federal Bureau of Investigations director Christopher Wray remarked on this growing trend:

> [T]here's a technology and digital component to almost every case we have now. Transnational crime groups, sexual predators, fraudsters, and terrorists are transforming the way they do business as technology evolves. Significant pieces of these crimes—and our investigations of them—have a digital component or occur almost entirely online . . . . And the avalanche of data created by our use of technology presents a huge challenge for every organization.[30]

Despite these enormous changes in crime investigation and how evidence is presented to juries, the general constitutional standards for mandated disclosures have not been substantially altered in response. Instead, *Brady* minimums, as well as state and federal rules, impose the same rules of disclosure for documents, reports, and other forms of evidence, whether they are in digital or physical form.[31] Additionally, those rules of criminal procedure have "not kept pace with the growth of ESI and the special demands it places on prosecutors and defense attorneys. . . . Digital discovery is therefore handled differently from state to state, from court to court, and from judge to judge."[32]

Courts have raised concerns regarding e-discovery practices and have pointed to the efficiency costs that result from massive data dumps, but most have recognized that these kinds of cases are the exception rather than the rule.[33] From this, it is somewhat understandable that the Federal Rules of Criminal Procedure ("FRCP") do not specifically address e-discovery.[34] FRCP Rule 16 makes no outright mention of any best-practices for the efficient sharing of information and instead appears to mirror the general principles for materiality espoused in *Brady* and its successive

30. Turner, *supra* note 1, at 244–45 (citing Remarks by Christopher Wray, Dir., Federal Bureau of Investigation, Fordham Univ., Jan. 9, 2018).

31. *Id.* at 246.

32. *Id.* at 249.

33. *See* United States v. O'Keefe, 537 F. Supp. 2d 14, 18–19 (D.D.C. 2008).

34. Justin P. Murphy & Matthew A.S. Esworthy, *The ESI Tsunami: A Comprehensive Discussion About Electronically Stored Information in Government Investigations and Criminal Cases*, 27 CRIM. JUST. 31, 39 (2012).

cases.[35] FRCP Rule 16.1 is the closest these rules come to addressing modern opportunities and complications of technology—encouraging, as per its Advisory Committee notes, discovery conferences to develop a joint plan to address these concerns.[36]

The Department of Justice and Administrative Office of the US Courts Joint Working Group on Electronic Technology in the Criminal Justice System ("JETWG") have made recommendations for ESI discovery production in the federal criminal system, but these again go little further than recommending some coordinated efforts that address concerns over "efficiency, security, and [reduced] costs."[37] Emphasis is placed on the security of ESI discovery procedures, even suggesting coordination of protection orders and encryption methods to assure confidentiality where appropriate; but specific delineations of when this *is* indeed appropriate, as well as mention of any *unified system* for doing so (beyond general mention of encryption), is not found.[38]

Much of the ambiguity in these procedures likely stems from that original concern over "reinventing the wheel"—that there is no need for a comprehensive revamping of discovery requirements (procedural or substantive) beyond jurisdictional adaptations to the burdens of evidence in specific cases.[39] The following discussions will attempt to show how it is precisely this variety in jurisdictional approaches, combined with the emerging reliance on technology in criminal investigation and prosecution, that suggests a more coordinated and substantial series of reforms may be preferred.

II. SOUTH CAROLINA – A CASE STUDY

South Carolina is a useful starting point, as it is among those states that adhere more closely to the federal rules and constitutional minimum requirements for discovery than the more "open file" jurisdictions to be discussed later. A South Carolina prosecutor is bound by a higher code of conduct specifically described in legislation, swearing that they will:

> [M]ake timely disclosure to the defense of all evidence or information known to the prosecutor that tends to negate the guilt of the accused or mitigates the offense, and, in

35. FED. R. CRIM. P. 16.

36. FED. R. CRIM. P. 16.1.

37. U.S. DEP'T OF JUST. & ADMIN. OFF. OF THE U.S. CTS., JOINT WORKING GROUP ON ELECTRONIC TECHNOLOGY IN THE CRIMINAL JUSTICE SYSTEM, RECOMMENDATIONS FOR ELECTRONICALLY STORED INFORMATION (ESI) DISCOVERY PRODUCTION IN FEDERAL CRIMINAL CASES, 4 (2012).

38. *Id.* at 5.

39. *See* United States v. O'Keefe, 537 F. Supp. 2d 14, 18–19 (D.D.C. 2008).

> connection with sentencing, disclose to the defense and to the tribunal all unprivileged mitigating information known to the prosecutor . . . .[40]

Notable here is South Carolina's only substantial deviation from the materiality standard in *Brady*—instead of requiring evidence to cast doubt on the outcome of a particular proceeding, the special responsibilities for South Carolina prosecutors ask them to consider whether evidence would tend to negate guilt or mitigate sentencing as well.[41] This different standard is important to consider, as it is curiously not reflected in the actual discovery obligations found elsewhere in that jurisdiction.

Rule 5 of the South Carolina Rules of Criminal Procedure details the actual requirements for state discovery obligations in South Carolina.[42] Within the language of this rule, mirroring the federal standard, the phrase "upon request of a defendant" accompanies every enumerated disclosure.[43] While *Brady* material may encompass even evidence not specifically demanded by the defense, this limiting language seems to place defendants on the back foot regarding evidence that might not squarely fit into the *Brady* standard. The trend of placing the defendant on the back foot is further seen in disclosure requests of state-held tangible objects and documents, as well as reports of examinations and tests, which trigger the availability of *reciprocal* requests for disclosure of the same kinds of materials in the defendant's possession.[44] Echoing *Brady* more directly, materiality as a necessary predicate for mandated disclosure is emphasized as well; materiality is described in reference to actual usefulness at trial, with certain disclosures requiring materiality "to the preparation of [defendant's] defense or . . . intended for use by the prosecution as evidence in chief at trial."[45] This differs somewhat from *Brady* by providing a more expansive definition of materiality than that which would undermine confidence in the outcome of a proceeding.[46]

South Carolina has implemented a pilot program to experiment with the use of digital filing systems at a statewide level. Beginning in 2015, this pilot program allows for the voluntary participation of county courts, but notably excludes from participation certain classes of cases which include post-conviction relief cases, habeas corpus cases, inmate petitions, actions commenced by

40. S.C. APP. CT. R. 407, R. PRO. CONDUCT 3.8(d).
41. *Id.*
42. S.C. R. CRIM. P. 5.
43. *Id.*
44. S.C. R. CRIM. P. 5(b)(1)(A-B).
45. S.C. R. CRIM. P. 5(a)(1)(C-D).
46. United States v. Bagley, 473 U.S. 667, 682 (1985).

minors for judicial consent for abortion, and "sexually violent predator actions."[47] E-filed documents in this pilot program have the same "force and effect" as those filed by traditional means,[48] with such filing constituting proper service under the state's rules of civil procedure.[49] But notably, this pilot program and its infrastructure is not, by legislative design, directed at improving efficiency or ease of discovery in the criminal realm, as its scope is specifically limited to "filings in all civil cases."[50]

While mention of this pilot program may seem inconsequential to a discussion of state disclosure in *criminal* cases, its existence inherently brings into question the lack of similar requirements for electronic discovery methods in either Rule 5 of South Carolina's Rules of Criminal Procedure or the state's other specific requirements for prosecutors. South Carolina's Judicial Branch has voiced some of the benefits of this system, pointing to its potential in helping to:

> [R]educe the handling of paper documents and files[,] . . . require less time and resources to file documents[,] . . . [and adding] the capability to submit filings, pay filing fees and check the status of filings, via the Internet, 24 hours a day, 7 days a week, and 365 days a year.[51]

The desired gains in judicial efficiency would seem to apply in criminal cases as well, if not for concerns over disparate gains experienced by indigent defendants who might lack access to the internet, as well as those pertaining to the workload of public defenders. In that sense, simply opening the civil model in South Carolina to criminal cases might not result in much gain.

While other states are much more descriptive in how state discovery obligations must be fulfilled, South Carolina takes a more minimalistic approach, one that deviates little from the federal and constitutional requirements.

III. NEW YORK – A CASE STUDY

Until only recently, New York mandated very limited exchange of discovery and often only mandated such disclosure on the eve of trial. Commonly dubbed as a "Blindfold Law," these discovery rules

47. S.C. R. COMMON PLEAS E-FILING GUIDELINES 2(C)(1)–(3) (2021).

48. S.C. R. COMMON PLEAS E-FILING GUIDELINES 4(B) (2021).

49. S.C. R. COMMON PLEAS E-FILING GUIDELINES 4(E)(2) (2021).

50. S.C. R. COMMON PLEAS E-FILING GUIDELINES 2(B) (2021).

51. *E-Filing Attorney FAQs*, S.C. JUD. BRANCH, https://www.sccourts.org/efiling/viewFAQs.cfm?categoryID=1 [https://perma.cc/45UE-RQCP] (last visited Apr. 9, 2024).

were reformed in 2020 to require significantly greater amounts of exchange between prosecutors and defense attorneys; New York thus joined the majority of states in adopting more open discovery requirements.[52] This shift has come at a time of technological advancement, one which has not only enabled this increased discovery to actually occur but also has enabled researchers to realize the benefits of such reforms.

Prior to these reforms, New York's "Blindfold Laws" had not been substantially changed since 1979, and any legislative movements to provide for more open state discovery obligations were met with resistance from the District Attorneys Association of the State of New York, which expressed concerns over protecting witness information and prosecutorial effectiveness in defense of the status quo.[53] These concerns were emphasized dramatically in the views expressed by three New York prosecutors who agreed, "[w]hat the defendant may not know is the strength of the prosecution's case, and therefore how likely it is that he can 'beat' the charges despite his guilt."[54] Critics of such laws have downplayed these concerns, saying they unfairly disadvantage defendants and force them to negotiate plea deals without knowing the full picture of the state's evidence against them.[55]

In any event, 2020 legislative reforms succeeded in altering a number of the state's rules of criminal procedure, most notably Section 245.20, which regulates mandatory and automatic state discovery obligations. While both the federal standard and that of South Carolina only require disclosure "upon request of the defendant," New York's new requirements are much more expansive—they require the prosecution to disclose "all items and information that relate to the subject matter of the case and are in the possession, custody or control of the prosecution . . ."[56] This section also notably differs by providing *extensive* description of the materials to which mandated discovery obligations apply and quelling earlier concerns over victim or witness safety with such additions as:

52. KRYSTAL RODRIGUEZ, DATA COLLABORATIVE FOR JUST., DISCOVERY REFORM IN NEW YORK: MAJOR LEGISLATIVE PROVISIONS 1 (2020).

53. Beth Schwartzapfel, *Undiscovered*, THE MARSHALL PROJECT (Aug. 7, 2021, 10:00 AM), https://www.themarshallproject.org/2017/08/07/undiscovered [https://perma.cc/8W6B-H6BZ]; Ashley Southall & Jan Ransom, *Once as Pro-Prosecution as Any Red State, New York Makes a Big Shift on Trials*, N.Y. TIMES (May 2, 2019), https://www.nytimes.com/2019/05/02/nyregion/prosecutors-evidence-turned-over.html [https://perma.cc/5STS-G43J].

54. Schwartzapfel, *supra* note 53.

55. Beth Schwartzapfel, *"Blindfold" Off: New York Overhauls Pretrial Evidence Rules*, THE MARSHALL PROJECT (Apr. 1, 2019, 7:00 AM), https://www.themarshallproject.org/2019/04/01/blindfold-off-new-york-overhauls-pretrial-evidence-rules [https://perma.cc/2TUK-KF6A].

56. N.Y. CRIM. PROC. L. § 245.20(1) (McKinney 2020).

"Nothing in this paragraph shall require the disclosure of physical addresses [of non-law enforcement witnesses]; provided, however, upon a motion and good cause shown the court may direct the disclosure of a physical address."[57]

One additional modification to mandatory disclosures, and a significant departure from the federal standard, South Carolina standard, and *Brady*, is found in section 245.20(1)(k), which mandates the disclosure of "all evidence and information" that would either negate a defendant's guilt as to a charged offense, reduce the *degree* of a defendant's culpability, support a *potential* defense, or mitigate punishment (among others).[58] Whereas the federal standard takes directly from *Brady* in mandated disclosure of additional information only insofar as it might be "material," and South Carolina only marginally expands that definition to include anything useful in either side's case-in-chief, this New York standard allows for a defendant to claim a wider variety of reasons for a prosecutorial error in fulfilling their discovery obligations. To this end, this provision specifically addresses guilt as to a charged offense (applying to trial preparation) as well as reasons for future punishment to be mitigated (applying to *sentencing*). Such information, when made available at such an early stage, arguably better prepares defendants to fully consider the consequences of pleading guilty and to better assess potential penalties should they instead pursue trial and lose nonetheless.

Other modifications to New York's criminal procedure came about from reforms that changed the timing of discovery obligations. Section 245.10 was modified to impose exceptions to disclosure timing obligations, available via motion and notification by the prosecution as opposed to being the default and needing to be demanded by the defendant.[59] One can imagine the difficulty of a rule requiring a defendant to argue for earlier disclosure without first having full access to the materials they are requesting; the new rule turns this idea on its head and places the burden on the prosecution to show why there should be a delay. Furthermore, likely in response to efficiency concerns of such additional requirements for the state, exceptions exist for low-level traffic infractions and petty offenses, which instead have more lenient requirements for the timing of state-mandated disclosures.[60]

Like South Carolina, New York has implemented digital filing infrastructure to a limited degree. Use of the New York State Court Electronic Filing System ("NYSCEF") is, however, limited to

57. N.Y. CRIM. PROC. L. § 245.20(1)(c) (McKinney 2020).
58. N.Y. CRIM. PROC. L. § 245.20 (McKinney 2020)
59. N.Y. CRIM. PROC. L. § 245.10(1)(a)(iv)(A)–(B) (McKinney 2022).
60. N.Y. CRIM. PROC. L. § 245.10(1)(a)(iii) (McKinney 2022).

voluntary participation on a county by county basis, with courts in each county even having discretion over which *kinds* of cases within their courts are eligible to use this system.[61] Despite this, the benefits of such a system have been realized:

> Electronic filing offers many benefits to attorneys, clients and unrepresented litigants in Supreme Court and the Court of Claims. Once jurisdiction is obtained, attorneys can file and serve papers at any time from any place via the NYSCEF system. A case can be initiated or post-commencement documents filed at any time on any day, even when the courts are closed. Service through NYSCEF could hardly be easier. . . . Storage of papers is simplified and expenses reduced. . . . The system provides immediate e–mail notice of all filings, including filing of all orders, judgments, and decisions, which will be available on–line. The docket is clear and easy to work with.[62]

Such benefits, however, again mirror South Carolina in only applying to civil cases, as mandatory participation applies only to civil actions (pursuant to certain exceptions) filed in New York's Supreme Courts.[63] While prosecutors and defense attorneys may make use of technology to file documents with the court, via email, for example,[64] the restrictions on use of NYSCEF prevent features such as automatic notification of disclosures, search-functions, and the ease of automatic service. Such ease-of-access issues do little to aid overworked defense attorneys in sifting through the comparably larger volume of discovered material.

New York's current discovery practices are certainly expansive compared to what they once were, but like South Carolina, they have yet to fully integrate technology into the criminal discovery sphere.

IV. COLORADO – A CASE STUDY

Colorado's requirements for state discovery obligations in criminal cases are governed primarily under Rule 16 of the Colorado Rules of Criminal Procedure.[65] Within this rule, sensitive information relating to informants is protected,[66] as in New York, and

61. *Frequently Asked Questions*, N.Y. STATE CTS. ELEC. FILING SYS., https://iappscontent.courts.state.ny.us/NYSCEF/live/faq.htm [https://perma.cc/A4WU-K585] (last visited Apr. 9, 2024).

62. *Id.*

63. N.Y. CT. R. 202.5-bb (McKinney 2022).

64. N.Y. CT. R. 200.4 (McKinney 2022).

65. COLO. R. CRIM. P. 16.

66. COLO. R. CRIM. P. 16 (I)(e)(2).

there is a degree of specificity toward exactly which types of materials fall into these obligations, one which exceeds that of South Carolina but is not nearly as expansive as New York.[67] Prosecutors are obligated to "disclose to the defense any material or information within his or her possession or control which tends to negate the guilt of the accused as to the offense charged or would tend to reduce the punishment therefor."[68] Colorado's standard for materials which must be discovered to the defense is therefore not exceptionally broad. Its only substantial deviation from *Brady* and more traditional approaches like that in South Carolina is that it asks a prosecutor to consider whether the material would tend to negate guilt *or* punishment, in a similar manner as New York.[69] Nonetheless, individual district attorney's offices are still free to adopt more generous open-file policies.

Colorado is unique in one aspect particularly relevant to the interplay between e-discovery practices and state discovery obligations. Within Rule 16, Colorado specifies that the prosecutor *may* "perform his or her obligations by use of a statewide discovery sharing system"[70] established pursuant to Colorado Revised Statute Section 16-9-702.[71] This system, accessed by Colorado District Attorneys via a program known as "Action," is currently the only state-wide criminal discovery system in use; established upon the order of the state legislature, the system was developed as part of a discovery steering project committee with members from the Colorado Attorney General's Office, state courts, Public Defender's Office, and District Attorney's Office.[72]

Currently maintained by the Colorado District Attorney's Council ("CDAC"),[73] the system enables the discovery of individual or packeted materials to defense attorneys or to pro-se defendants via email. For district attorneys, the system provides a single, unified tool for tracking case events, searching for information, managing dockets, and indeed exchanging discovery.[74] The system is also connected to others in Colorado, such as that used by the state

67. COLO. R. CRIM. P. 16 (I)(a)(1).

68. COLO. R. CRIM. P. 16 (I)(a)(2).

69. *Id.*

70. COLO. R. CRIM. P. 16 (V)(b)(2)(i).

71. COLO. REV. STAT. § 16-9-702.

72. *Id.* § 16-9-701 (there existed members on the committee deriving from other bodies as well).

73. *Id.* § 16-9-702.

74. *See generally* COLO. DIST. ATT'YS' COUNCIL, *What We Do*, https://coloradoprosecutors.org/cdac/what-we-do/ [https://perma.cc/L2LJ-USGY] (last visited May 6, 2024) (describing ACTION as a "comprehensive case management system [that] provides prosecutors with an expansive database with information to consider in every aspect of a case," and highlighting how e-discovery "increases the efficiency and accessibility of information for defendants and their attorneys.").

courts whose filings automatically appear, and are downloadable, within a case in Action, and also enables local law enforcement agencies to scan and upload their own materials for use in a given case.[75]

Rule 16 does not specifically mandate the use of this system for prosecutors,[76] allowing them to pursue physical means of discovery in demanding circumstances, such as when handling exceptionally sensitive information or providing materials to indigent defendants. The system is relatively new, with no major studies having been performed at its effectiveness. However, certain jurisdictions have made use of the connected and state-wide nature of the system to begin tracking metrics useful for the promotion of justice, such as disparate outcomes in plea negotiations and sentencing within even a single jurisdiction.[77]

Colorado has a robust digital infrastructure aiding discovery in criminal cases but does not mandate an open-file policy. Combining the outcomes from Colorado's implementation of this system with the experience of New York and others, one can gather an understanding of how a modern criminal justice system should seek to approach discovery obligations.

V. PROPOSING A TECHNOLOGY-CONSCIOUS MODEL FOR STATE DISCOVERY OBLIGATIONS

Understanding the impact of both open-file discovery transitions as well as the implementation of new discovery infrastructure is difficult given the lack of statistical analyses studying such impacts specifically. That said, it is possible to acquire some understanding of these impacts by looking generally toward trends

75. *WDM Toolkit – Colorado*, NAT'L CTR. FOR STATE CTS., https://www.ncsc.org/wdmtoolkit/state-initiatives/colorado [https://perma.cc/7DBA-CGET] (last visited Apr. 28, 2024). The system even provides certain auto-fill features, such as the ability to pull from up-to-date lists of available charge codes, which when made available to law enforcement coordinate with charge codes in the ACTION system. *See generally* COLO. DIST. ATT'YS' COUNCIL, *supra* note 74; *See, e.g.*, Memorandum of Understanding, Thomas Raynes, Exec. Dir., Colo. Dist. Att'y's Council to Avon Police Department (2017) (available online at https://lfpublic.avon.org/WebLink/0/edoc/152659/07-31-2017%20MOU%20Terms%20and%20Use%20of%20CDAC%20Proprietary%20Information%20-%20Change%20Codes%20APD.pdf) [https://perma.cc/T33B-Y578].

76. COLO. R. CRIM. P. 16 (V)(b)(2)(i).

77. *See, e.g.*, the recent publicly-accessible data dashboard projects in the 2nd and 20th Judicial Districts. The Denver and Boulder District Attorney's Offices, respectively, pulled data directly from the Action system. This data analysis has been performed for all District Attorney's offices in Colorado, in collaboration with a number of groups and funded by a grant from the Microsoft Justice Reform Initiative. *Overview*, TWENTIETH JUD. DIST. ATT'Y DATA DASHBOARD, https://data.dacolorado.org/20th/overview (last visited Jan. 28, 2024); *Overview*, DENVER DIST. ATT'Y DATA DASHBOARD, https://data.dacolorado.org/2nd/overview [https://perma.cc/DAH4-FS77] (last visited Apr. 9, 2024).

related to original concerns over these reforms—in particular the number of criminal appeals filed over time. Given that one major concern over the implementation of open-file policies is the overburdening of the judicial system with increased litigation on appellate matters,[78] this metric provides at least a starting point to evaluate technology's ability to make the transitions to such policies easier.[79]

Take, for example, the state of New York. As discussed, in 2020 New York implemented a state-wide series of reforms which drastically altered its discovery requirements away from the traditional "Blindfold Law" and imposed much greater mandatory requirements toward state discovery obligations.[80] The following year the New York Court of Appeals saw thirty-six filings and subsequent grants of appeal in criminal matters compared to thirty-four in the year prior (before the discovery reforms).[81] Meanwhile, in New York's intermediate appellate-level courts, there was a slight decrease in appellate filings from 2,228 criminal cases filed in 2020 to 1,974 criminal cases filed in 2021.[82]

The lessons available to be learned from New York are somewhat limited by the lack of comprehensive statistical analysis of filings of appeals following the 2020 reforms.[83] The impact of the COVID-19 pandemic on such filings is also not clearly determinable without such further efforts. That said, the lack of significant increases in filed-and-heard criminal appeals suggests the New York Court of Appeals did not see fit to grant any significant difference in the number of criminal appeals, implying that perhaps the open-file reforms enacted the year prior did not result in the flood of litigation anticipated by some.[84] Additionally, at the intermediate appellate level, the slight decrease in appellate cases supports the

78. *See* Fox, *supra* note 26, at 440–43.

79. Further statistical analysis, utilizing multivariable regression techniques, is likely needed to determine the specific impact of open-file policy on this and other indicators of judicial efficiency and accuracy. At the very least, such studies analyzing the potential improvement from open-file and similar policy reforms is made much easier through the use of connected statewide systems. *See, e.g.*, *supra* note 75; *infra* note 93.

80. *See* discussion *supra* Section III.

81. N.Y. CT. APP., 2021 ANNUAL REPORT OF THE CLERK OF THE COURT OF APPEALS 6 (2021).

82. N.Y. CT. APP., 2020 ANNUAL REPORT OF THE CHIEF ADMINISTRATOR 54 (2020); N.Y. CT. APP., 2021 ANNUAL REPORT OF THE CHIEF ADMINISTRATOR 58 (2021) (These reports are created annually and can be found at https://ww2.nycourts.gov/reports/annual/index.shtml [https://perma.cc/LMS7-YYTT]).

83. Certainly, basic statistics surrounding appellate trends exist. However, no concrete statistical analysis has clarified the specific impact of New York's reforms on these trends.

84. Additional research, and perhaps time to analyze the effects of these reforms, is almost certainly needed. The 2021 Annual Report of the Clerk of the Court of Appeals lacked some of the more detailed tables breaking such numbers down further that appeared in earlier years' reports. *See, e.g.*, N.Y. CT. APP., 2014 ANNUAL REPORT OF THE CHIEF ADMINISTRATOR (2014).

same conclusion. With this information, the next question becomes: how do we ensure that open-file does not become the veil of false legitimacy some worry it will become?

The answer to this question is illuminated by the experience of Colorado, and by the simple proposition that one would prefer to have a comprehensive means of gathering data on criminal cases and filings. This kind of system is absent in New York (at least in the criminal sphere—there does not exist such a system whose data is instantly available to prosecutor's offices) but *does* exist in Colorado. Colorado began its development of the Action system in 2013[85] and has connected its data not only with local prosecutor offices in nearly every jurisdiction, but also with numerous state judicial and law enforcement entities.[86] Looking at trends beginning in 2014 onward, within the Colorado Court of Appeals the number of criminal appeals first decreased by 1 percent in the 2014-15 fiscal year,[87] then decreased 10.3% in the next fiscal year[88] before somewhat recovering with an increase of 8.1% during 2016-17;[89] from 2018-2020 there has not been any similar major shifts away from that initial, slight decrease.[90]

The reports from the Colorado Judicial Branch are important for readers to view for two main reasons. First, as just discussed, they seem to indicate that transitions to statewide criminal

85. Act of May 24, 2013, ch.269, sec. 1, 2013 Colo. Legis. Serv. 1414 (West) (codified as amended in C.R.S. § 16-9-701).

86. NAT'L CTR. FOR STATE CTS., *supra* note 75.

87. COLO. JUD. BRANCH, COLORADO JUDICIAL BRANCH ANNUAL STATISTICAL REPORT 12 tbl. 9 (2015), https://www.courts.state.co.us/userfiles/file/Administration/Planning_and_Analysis/Annual_Statistical_Reports/2015/FY2015%20Annual%20Statistical%20Report.pdf [https://perma.cc/88AM-NMSR].

88. COLO. JUD. BRANCH, COLORADO JUDICIAL BRANCH ANNUAL STATISTICAL REPORT 12 tbl. 9 (2016), https://www.courts.state.co.us/userfiles/file/Administration/Planning_and_Analysis/Annual_Statistical_Reports/2016/FY%202016%20Annual%20Statistical%20Report.pdf [https://perma.cc/NAR3-GH36].

89. COLO. JUD. BRANCH, COLORADO JUDICIAL BRANCH ANNUAL STATISTICAL REPORT 12 tbl. 9 (2017), https://www.courts.state.co.us/userfiles/file/Administration/Planning_and_Analysis/Annual_Statistical_Reports/2017/FY2017ANNUALREPORT.pdf [https://perma.cc/3QF2-NWVY].

90. *See* COLO. JUD. BRANCH, COLORADO JUDICIAL BRANCH ANNUAL STATISTICAL REPORT 11 tbl. 8 (2018), https://www.courts.state.co.us/userfiles/file/Administration/Planning_and_Analysis/Annual_Statistical_Reports/2018/FY2018FINAL.pdf [https://perma.cc/5P35-3Y43] (showing a change of +3.2% from 2017-2018); COLO. JUD. BRANCH, COLORADO JUDICIAL BRANCH ANNUAL STATISTICAL REPORT 11 tbl. 8 (2019), https://www.courts.state.co.us/userfiles/file/Administration/Planning_and_Analysis/Annual_Statistical_Reports/2019/FY2019AnnualReportFINAL.pdf [https://perma.cc/GB3J-WVUC] (showing a change of -0.2% from 2018-2019); COLO. JUD. BRANCH, COLORADO JUDICIAL BRANCH ANNUAL STATISTICAL REPORT 11 tbl. 8 and Chart A (2020), https://www.courts.state.co.us/userfiles/file/Administration/Planning_and_Analysis/Annual_Statistical_Reports/2020/FY2020%20Annual%20Statistical%20Report-FINAL.pdf [https://perma.cc/9E8A-UER6] (showing a change of -3.2% from 2019-2020).

discovery databases have, if anything, a slight *positive* impact on judicial efficiency by reducing the number of criminal appeals filed. While other factors may be at play,[91] such minimal downsides are encouraging when one considers the more stringent requirements of Colorado Rule of Criminal Procedure 16 toward state-mandated discovery.[92] Combined, the successful implementation of the Action system in a state which employs such higher standards suggests that prosecutors have nothing to fear by embracing tools that allow for more efficient and centralized handling of their dockets.

The second, and more visually obvious importance of viewing these reports, is the thoroughness of data provided by the Colorado Judicial Branch. Extensive tables illustrating case filings by category (including breakdown of *types* of criminal cases) and other deeper analyses of trends in the Colorado state courts at all levels, demonstrate a thoroughness in Colorado's ability to collect statewide data that other reports, such as those from New York, fail to include.[93] The existence of connected statewide systems for judicial data collection that are so user-friendly as to be widely used by prosecutors (who, it is worth remembering, are not legislatively bound to do so), suggests that aside from efficiency gains in the actual operations of the courts, states may benefit from discovery systems in ways that are inherent to the digitalization of cases in general. The ability to track data provides jurisdictions with the second-hand ability to review its policy changes in real-time, providing insight on areas of necessary change and how implemented changes may or may not be working.[94] The 20th Judicial District Attorney's Office, located in Boulder, Colorado, was even able to provide this data to a third-party organization for further

91. The same concerns pertaining to the effect of the COVID-19 pandemic and lack of thorough statistical analysis on this issue (at least in terms of regression analysis in Colorado's case) exist, as they did with regards to data on reforms in New York.

92. COLO. R. CRIM. P. 16(I)(a)(2).

93. *Compare* COLO. JUD. BRANCH, COLORADO JUDICIAL BRANCH ANNUAL STATISTICAL REPORT 56–64 tbl. 18 (2022) (examining filing trends in criminal cases with specific focuses on the prevalence of different crimes), *with* N.Y. CT. APP., 2022 ANNUAL REPORT OF THE CLERK OF THE COURT OF APPEALS, App. 7 (2022) (examining filing and disposition trends in criminal cases, but without specific breakdown of trends in charging and dispositions in differing criminal case types). While the lack of greater depth in analysis of New York's annual reports may be a simple choice in presentation of their report, the fact remains that this data is collected and analyzed mainly through the state judiciary, and so any individual prosecutor's office lacks ease of access to such data for their own collection and analysis. The Action system allows for just this with regards to prosecutor's offices in Colorado.

94. This is exactly the tangible benefit experienced by the 2nd and 20th Judicial Districts in their utilization of the Action system for analysis of prosecutorial trends. *See, supra* note 77.

analysis of existing internal bias amongst its prosecutors.[95] Such analysis, initially performed solely on felony-level cases, has raised concerns among some in that locality and has pushed the local elected district attorney to continue monitoring efforts in the hope of encouraging consistent and fair prosecution practices.[96]

Colorado provides an argument for digital infrastructure not limited to a single purpose, but one with such a degree of flexibility in use and connectedness between the various actors in the criminal process as to provide opportunities for greater analysis of that very process. Whether it be prosecutors, defense attorneys, or the courts themselves, providing a system with a greater degree of versatility in use encourages greater participation even where the use of such system is not officially mandated. This is an important element of a proposed framework for the incorporation of digital infrastructure in the criminal process, as it may be the case that early rollouts of such projects are more trials than official launches. For example, NYSCEF in New York is, theoretically, *able* to be used by courts in criminal cases, but this is not mandatory.[97] Its current lack of widespread implementation in this area may be precisely the result of a lack of such connectedness and versatility in use.

Similarly, other states have implemented statewide electronic filing systems using a single portal,[98] but none mirror Colorado in the versatility in use and total access in criminal cases. For example, the state of Alaska utilizes a statewide e-filing system, but its rollout has been only recent and in some locations is still not available for criminal cases.[99] In the case of Alaska, the recent adoption of digital infrastructure was a means of addressing inefficiencies in the criminal justice process, from slower courier-based transfers of

95. *Boulder County, CO Incarceration Trends*, VERA INST. OF JUST. (Aug. 21, 2023, 6:55 PM), https://trends.vera.org/state/CO/county/boulder_county [https://perma.cc/5FT7-3RSC].

96. Zoe Schacht, *Action Urged on Racial Inequities Identified in Boulder County Criminal Courts Study*, COLO. NEWSLINE (Aug. 1, 2022, 5:00 AM), https://coloradonewsline.com/2022/08/01/action-urged-on-racial-inequities-identified-in-boulder-county-criminal-courts-study [https://perma.cc/VH9E-YFEL].

97. *See* discussion, *supra* Section III; *see also Frequently Asked Questions*, *supra* note 61.

98. *See generally* MARIE LEARY & JANA LAKS, ELECTRONIC FILING IN STATE COURTS, FED. JUD. CENTER (2022) https://www.fjc.gov/sites/default/files/materials/59/ElectronicFilingStateCourts.pdf (explaining that while "court systems in sixteen states have implemented a statewide electronic filing system using a single portal" there yet exists great variation in such implementation, both in scope of eligible cases as well as whether use of these systems is mandatory or not) [https://perma.cc/QP3J-GV3U].

99. *eFile Project Information*, ALASKA CT. SYS., https://courts.alaska.gov/efile/index.htm [https://perma.cc/3K5P-BKVU] (last visited Apr. 28, 2024) (noting that most localities saw the system implemented in 2022. Anchorage, Palmer, Sand Point, and Saint Paul did not implement the system for their criminal cases until 2024, while Unalaska has still not fully implemented the system for all criminal cases).

police reports to prosecutors[100] to inconvenient methods of physical discovery handovers between prosecutors and public defenders.[101]

The Alaska Judicial Council has specifically noted the burdensomeness (in time, expense, and labor) of physical discovery, as compared against the digital option, in a needs assessment on electronic exchange of criminal case discovery materials.[102] The Alaska Judicial Council also highlighted the versatility of a digital option in the searchability of documents and providing for more efficient responses to requests for further information or materials from local law enforcement.[103] They predicted that these features would result in lower discovery costs[104] and may actually *diminish* the number of appellate claims of ineffective assistance of counsel, among others.[105]

VI. REMAINING CONCERNS

The needs assessment performed by the Alaska Judicial Council also raises concerns about the benefits of digital infrastructure in criminal discovery. For one, electronic discovery will not completely ameliorate a lack of resources; law enforcement agencies and public defenders, in particular, may still be hampered by budget restraints in providing access to such a digital system.[106] Such a concern applies to any state prospectively seeking to adopt a model similar to that of Alaska or Colorado. Additionally, that assessment raised perhaps a more important concern—that pertaining to digital literacy.[107]

The American Bar Association, citing data collected by the US Bureau of Labor Statistics, reports that the median age for lawyers in 2022 was 46 years old.[108] Generously assuming all lawyers

100. ALASKA JUD. COUNCIL, ELECTRONIC EXCHANGE OF CRIMINAL CASE DISCOVERY MATERIALS: A NEEDS ASSESSMENT 25 (2008), https://ajc.alaska.gov/publications/docs/research/ajc_e-discovery_needs_assessment_11-08_5.pdf [https://perma.cc/YZ27-L9VN] (last visited Apr. 9, 2024).

101. *Id.* at 14.

102. *Id.* at 25.

103. *Id.*

104. *Id.* at 26–27. This is a common benefit of digital discovery practices, observed as far back as 2001. *See, e.g.*, NAT'L INST. FOR TRIAL ADVOC., EFFECTIVE USE OF COURTROOM TECHNOLOGY: A JUDGE'S GUIDE TO PRETRIAL AND TRIAL 65 (2001) ("Discovery may proceed more smoothly, with fewer disputes and requiring less time overall, if documents are exchanged in their "original" digital format at the outset. This reduces cost and reduces the opportunities for problems arising out of conversion. Digital files can be searched without further processing, thus eliminating the substantial cost of processing with optical character recognition (OCR) software . . . .").

105. ALASKA JUD. COUNCIL, *supra* note 100, at 26, 28.

106. *Id.* at 28.

107. *Id.*

108. *Profile of the Legal Profession 2023*, AM. BAR ASS'N, https://www.abalegalprofile.com/demographics.html [https://perma.cc/ZB3R-5DK6] (last visited Apr. 9, 2024).

enrolled in law school at an early age of twenty-three, this would put most lawyers at graduating and joining the legal profession around the year 2000.[109] While such young graduates would have no doubt begun to learn skills relevant to practice in a digital age, even the most experienced practicing attorneys today would likely agree that young associates starting their careers often have a better innate grasp of new technologies and digital services than themselves. This may be especially true for new digital discovery tools with unfamiliar user interfaces, the likes of which could manifest through the widespread adoption of digital infrastructure in criminal discovery.

Digital literacy is an important attribute for new attorneys and is one that would be undoubtedly needed by practicing prosecutors and defense attorneys if their jurisdictions were to suddenly transition to digital discovery practices. The American Bar Association does, of course, encourage lawyers to keep up to date with requisite knowledge and skills, including applicable technologies.[110] However, as recognized by the Alaska Judicial Council, the sudden implementation of digital infrastructure without necessary assurances of competency or renewed training presents the risk of leaving some legal professionals in the criminal sphere unprepared for such transitions.[111]

CONCLUSION

As we have seen, despite the adoption of more open-file systems in states such as New York and Colorado, little evidence exists that there has been any 'flood' of criminal appeals, the likes of which might indicate lapses in prosecutorial effectiveness.[112] Instead, it would seem that the only observable effect of such reforms (absent further statistical study) would be the basic increase in discovery materials available to defendants. For a prosecutor, these two facts combined make a compelling case against the worry that adopting open-file systems would in any way negatively affect the pursuit of justice.

Moreover, we have seen that digital infrastructure supporting greater discovery obligations can provide various benefits to prosecutors. At its most basic level, such digital infrastructure can make

109. As a reference for younger readers, MySpace (in many ways an early predecessor of Facebook) was founded in 2003.

110. MODEL R. OF PRO. CONDUCT 1.1 CMT. 8 (AM. BAR ASS'N 2022).

111. *See* ALASKA JUD. COUNCIL, *supra* note 100, at 28. *See also* ALASKA CTS. SYS., *supra* note 99 (laying out timelines for e-filing system rollout in new localities, as well as training webinars for "prosecutors, defense council, law enforcement, and other justice partners . . . .").

112. *See* discussion, *supra* Section V.

the actual discovery process easier and more efficient, as seen in both Alaska and Colorado. Versatility in the features contained within digital infrastructure also encourages its use and contributes to making such projects cost-effective. Such versatility may even extend to gains experienced by the analysis of trends in the criminal justice system, either by individual prosecutor's offices[113] or by other state authorities.[114] Digital infrastructure can provide prosecutors with tools to make their day-to-day tasks easier while simultaneously providing a means of tracking the benefits of implemented reforms.

From such lessons, the image of an ideal model for implementing open-file policies becomes clearer: District attorney's offices should strive to move away from *Brady* minimums for the sake of promoting their own legitimacy and increasing the accuracy of their prosecutions. Digital infrastructure can aid not only in making that happen, but also in tracking how well such reforms are performing based on indicators such as the filing of appeals and criminal case outcomes. Such a gain is further enhanced when implementing digital infrastructure on large, statewide scales, as well as when it is used to analyze other trends in local prosecution, thereby lending itself as a tool to promote unbiased prosecution, and indeed, prosecutorial legitimacy, on several levels.[115] Digital infrastructure is best designed to include versatile tools capable of aiding prosecutors (and other actors within the criminal system) in day-to-day tasks, thereby encouraging use in cases of non-mandated system implementations.

The available gains of digital infrastructure in criminal discovery practices are simply too valuable to ignore. For those jurisdictions strictly adhering to *Brady* minimums out of fear of judicial inefficiency or prosecutorial inefficacy, such tools may provide a means of more confidently transitioning to open-file policies through advanced data collection on criminal cases. In the event of such concern, such states are encouraged to develop digital infrastructure—at the very least in the name of cost-savings and judicial efficiency. Roll-outs of more open-file state discovery requirements can then follow, with that digital infrastructure providing tools capable of tracking whether original concerns are founded.

Embracing technology can benefit prosecutors and aid in the efficient administration of justice. How any given state specifically intends to adopt digital tools into its administration of criminal justice is up to them. However, one thing is clear—the growing trend of such adoption should signal states and prosecutors to seriously

113. *See, e.g.*, Fox, *supra* note 26, at 443.
114. *See, e.g.*, COLO. JUD. BRANCH, *supra* notes 87–90.
115. *See*, *e.g.*, Schacht, *supra* note 96.

consider the option. This note may indeed provide a starting point for such considerations.