THE LOGIC OF INSURGENT ELECTORAL VIOLENCE*

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December 17, 2016

Abstract

Competitive elections are essential to establishing the political legitimacy of democratizing regimes. Recognizing the symbolic value of voter participation, armed actors who lack political power try to undermine the state's mandate through electoral violence. We study the logic of insurgent electoral violence, focusing on the crucial balance between disrupting elections and minimizing harm to potential supporters of the rebellion. We theorize when and where insurgents attack around elections. To test our theory, we perform a quantitative assessment of insurgent electoral violence in Afghanistan. This assessment incorporates novel geo-referenced data on polling stations, data on the ethnic composition and locations of villages, and newly declassified microdata on insurgent activity. Our results show that insurgents significantly increase the intensity of violence on election days before and as voting centers open, but harm relatively fewer civilians than non-election periods. Insurgents also deploy improvised explosive devices (IEDs) along roads connecting voters and polling stations, but rarely bomb these roads multiple times. We instrument for the timing and distribution of insurgent violence using early morning wind conditions and nighttime cloud cover and show that the timing and spatial distribution of insurgent violence effectively undermine voter participation. Our results are critical to those seeking to safeguard at-risk elections in developing democracies.

*For advice and comments, we thank Kyle Beardsley, Cory Belden, Peter Buisseret, Anthony Fowler, Clark Gibson, Tarek Ghani, Guy Grossman, Nahomi Ichino, Luis Martinez, Victor Menaldo, Nathan Nunn, Ethan Scheiner, Jacob Shapiro, and Susan Whiting. We also thank workshop participants at the University of Washington and members of the Princeton University Empirical Studies of Conflict (ESOC) project. This material is based in part upon work supported by the National Science Foundation Graduate Research Fellowship under Grant No. 2012152169 [Wright], and the Harvard Academy for International and Area Studies [Long]. All errors remain with the authors.

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1 Introduction

A country's institutional endowments contribute importantly to the government's ability to maintain domestic order and lay the groundwork for economic prosperity (Debreu, 1959; North and Thomas, 1973; North, 1981). The more effectively institutions constrain the executive and allow for the participation of diverse social and economic actors, the more likely a country gains fiscal and bureaucratic capacity (Acemoglu et al., 2001; Acemoglu and Robinson, 2006; Acemoglu et al., 2014a; Engerman and Sokoloff, 1997; Besley and Persson, 2009, 2014), monopolizes violence (Tilly, 1993; Fukuyama, 2014; Besley and Robinson, 2010), and deters rebellion (Acemoglu and Robinson, 2006; Haggard and Kaufman, 2016). In developing and conflict-afflicted countries, scholars and policymakers have recently advanced competitive elections as one such institution critical for state-building (Hyde, 2011a; Kelley, 2012). Ideally, elections allow newly constituted democratic governments to strengthen their political authority by implementing the process by which citizens ratify the regime (Powell, 2000; Persson and Tabellini, 2000), solidify legitimacy by gaining the compliance of the population that expresses its consent to be governed through voting (Levi, 1988; Norris, 2014), and provide a fair and transparent mechanism for formerly or potentially violent factions to compete peacefully for political power (Wantchekon, 2004). Empirically, however, electoral contests often fail to meet these goals, especially when armed groups are not successfully incorporated into democratic procedures. As a result, insurgent groups frequently threaten and carry out violence against the state and voters during electoral events (Berrebi and Klor, 2008), further eroding fragile state capacity and nascent institutions in transitioning societies (Collier, 2009).

Although previous research has highlighted the need to incorporate rebels into transition regimes (Matanock, 2012, 2014; Walter, 1999), less attention has been paid to whether, why, and how insurgents respond to exclusion by seeking to disrupt elections, and whether their violent electoral strategies ultimately succeed. At first glance, it is not immediately obvious that armed groups would devote resources differentially to target the government or civilians on election day compared to other periods of fighting. These choices are further complicated if the government increases security deployments to protect voters (Condra et al., 2016), making election strikes operationally

more difficult compared to non-election ones. Accordingly, the empirical record demonstrates that in conflict settings, wide variation exists in whether these organizations appear to change tactics in response to elections. While Boko Haram has not adjusted targeting around electoral periods in Nigeria, al-Shabaab in Somalia (AP, 2016; Gaffey, 2016) and FARC and other paramilitaries in Colombia (Acemoglu et al., 2013; Robinson, 2016) have openly used violence to coerce the electorate.

Second, conditional on insurgents' engaging in violence near elections, combatants necessarily operate within a strategic environment that constrains their behavior in important ways (Shapiro, 2012). Such groups' choices might be shaped by resource limitations (Weinstein, 2007; Feinstein and Kaplan, 2010), expected counterinsurgent responses (Berman and Laitin, 2008; Wood, 2010), and the level of popular support the group enjoys (Berman et al., 2011b; Snchez-Cuenca and de la Calle, 2009). These realities no doubt contribute to the significant variation in the timing, location, and style of electoral attacks within and across cases. For example, Palestinian Hamas attacks on Israeli civilian and military targets during elections in hopes of affecting Israeli voting behavior (Berrebi and Klor, 2008), whereas Sunni insurgents have threatened both Shiite political actors and co-sectarian Sunni politicians and voters during Iraqi elections to demonstrate a rejection of the Iraqi state (Gordon and Trainor, 2012).

Last, measuring whether and to what degree insurgents' violent strategies affect electoral processes necessarily involves addressing substantial empirical and methodological challenges. Investigations thus far have been limited by a lack of high-quality, micro-level data on both the timing and location of violent events matched against electoral dynamics, preventing scholars from systematically analyzing variation in insurgent tactics and their impact on election outcomes. Moreover, because the timing and choice of targets could be endogenous to factors that affect citizens' propensity to vote, isolating the independent effect of violence on election outcomes, like turnout, is difficult to estimate. The role and impact of insurgent participation in electoral politics in transitioning democracies therefore remains ripe for investigation.

To address these challenges, we examine the logic guiding insurgent groups and the factors that shape their use of violence around elections. We view the structure and behavior of insurgent groups

as analogous to illicit organizations that act outside of the bounds of the law. Similar to other covert groups (Dixit, 2004; Gambetta, 2009), insurgents necessarily face numerous managerial dilemmas and strategic trade-offs coordinating members to achieve joint goals in the shadow of illegality (Shapiro, 2013). Insurgent leaders must oversee and manage field commanders and their fighters, made difficult by deliberately concealed operations and incentives to shirk, even though insurgents may enjoy in-group social bonds and shared economic resources. The primary goal of insurgent organizations involves violently taking control of the state to overthrow the extant political and social order (Hirschman, 1970).

On the one hand, we argue that insurgent groups excluded from (or opting out of) formal institutions like elections are likely to differentially increase attacks during election events to undermine the voting process by threatening political actors and the electorate for turning out. Insurgents do so because elections serve an important coordination point in the battle between the government and rebels for the "hearts and minds" of the population. Although governments conduct elections as plebiscites to solidify their rule and strengthen legitimacy, insurgents increase attacks during elections precisely to undermine these goals and signal to the civilian population that the government lacks a monopoly on violence. On the other hand, given their desire to control the state in the future and maintain control over the population, insurgents also aim to maintain or grow their public support. Thus, insurgents may incur "governance" costs for harming civilians generally (Berman, 2011; Shapiro, 2013; Horne, 2006), but this constraint binds sharply around elections because civilians are in greater proximity to government forces than normal and incidents involving harm to civilians receive heightened media and popular attention. Killing voters at polling stations, or engaging in other criminal acts that are individually rational, can hurt the group's reputation and undermine the broader political project of the insurgency. Minimizing harm to non-combatants, while maximizing damage to the state and its interests, therefore forms a core electoral objective of insurgent organizations.

Recognizing this strategic trade-off, we study insurgent electoral strategies and outcomes in Afghanistan, where the Taliban and its allies have attempted to undermine nascent democratic institutions to varying degrees through the use of violence since the U.S. invasion in 2001 (Rashid,

2012; Coburn and Larson, 2014). Despite centralization under Taliban leadership and unification of purpose in training, ideology, and goals, the group allows a large degree of discretion for field commanders with respect to target choices (Semple, 2014). Therefore, whether and to what degree systematic empirical patterns of attacks follow the dictates of Taliban leadership remains an open question. Accordingly, we assess insurgent strategies empirically over multiple electoral rounds, combining qualitative data drawn from Taliban documents and published statements with newly declassified micro-level data on insurgents' political violence (including those that cause civilian casualties), geo-referenced data on polling centers, road networks, electoral results, and the ethnic composition and locations of villages.

We employ these data to test observable implications of our theory. Specifically, the tension we emphasize—between electoral disruption and civilian harm—should be reflected in insurgents' choices of when and where to wield violence. First, we hypothesize that insurgents will carry out more attacks on election days, but that these engagements will be timed to minimize harm to voters. Second, we hypothesize that insurgents will deploy explosive devices to cut off roads connecting voters to polling stations, but in order to minimize civilian casualties, insurgents will avoid repeated bombings. Although individually and combined, these tactics fail to prevent elections from occurring (and recurring) generally, we examine whether the timing and spatial distribution of insurgent violence accomplishes a core objective of reducing voter turnout in areas where the Taliban more likely competes for "hearts and minds," including in areas populated by their co-ethnic Pashtuns. To do so, we employ instrumental variables to estimate and isolate the plausible exogenous variation of insurgent violence on turnout using two environmental constraints on the timing and distribution of attacks: surface wind conditions and nighttime cloud cover.

Our results offer substantial evidence consistent with the logic of insurgent electoral violence we describe, and demonstrate the effectiveness of these rebel tactics at undermining the election process. First, Afghan insurgents increase attacks on election day ostensibly to disrupt the voting process, but these attacks are concentrated much earlier in the day than usual (i.e., before and as polling stations open to voters). We also observe that despite substantially increasing violence during the early morning hours of election days, in absolute terms, no more civilians are killed

by insurgent operations during these periods. In relative terms, substantially fewer civilians are killed per attack on election days than normal. Second, we find that insurgents expanded the deployment of improvised explosive devices (IEDs) during the month before the 2014 election, but only along segments of the road network that would experience heightened traffic on election day by voters traveling to polling stations. While they targeted these roads more frequently, insurgents demonstrated restraint in the intensity with which critical elements of the road network were bombed: important roads were rarely targeted multiple times. Polling locations in ethnically Pashtun areas—where the Taliban exerts more control and the population is least likely to favor the government—were also more likely to be affected by road-side IEDs than in non-Pashtun areas. Third, with regard to violence's effect on turnout, every additional instrumented direct fire attack within a district (maximum of 10) led to a 9-11% reduction in district turnout in the first round of the election. Additionally, our instrumental variable estimates indicate that IED deployment along a given road decreases the total number of ballots cast at downstream polling centers by an average of 8,000 votes, and were more likely to affect the Pashtun presidential candidate (Ashraf Ghani) compared to his competitor. Numerous robustness checks support our main results. These quantitative results accord with numerous statements made by Taliban leadership (relayed in public statements and gained from primary documents) that stress the avoidance of harm to civilians in the production of violence generally, and with respect to elections in particular.

Our findings contribute important insights to several strands of scholarship. First, we speak to a literature in the political economy of development regarding the institutional determinants of state-building and long-run growth (Greif, 2006; Acemoglu et al., 2001, 2005; Acemoglu and Robinson, 2006, 2012; Acemoglu et al., 2014b; Engerman and Sokoloff, 1997; North and Weingast, 1989; Fukuyama, 2014; Besley and Persson, 2014; Evans and Rauch, 1999; Herbst, 2000; Besley and Persson, 2011; Acemoglu et al., 2015). Specifically, scholars have noted that state capacity and economic performance are more likely to grow stronger when diverse social and economic actors gain institutional inclusion and representation (Acemoglu et al., 2001; Acemoglu and Robinson, 2006; Acemoglu et al., 2014a; Engerman and Sokoloff, 1997; Besley and Persson, 2009, 2014; Tilly, 1993; Fukuyama, 2014; Besley and Robinson, 2010). We focus on one institution—elections—and

specify conditions under which the failure of this institution to *de jure* or *de facto* include, or stave off, one important type of group, extant or future insurgents, undermines a vital benchmark for development. While countries like Afghanistan face many challenges towards improving growth, and elections are only one of many important institutions for state-building (Acemoglu and Robinson, 2016), their very conduct may erode state capacity and harm citizen welfare in nascent democratic regimes if they are not conducted peacefully (Collier, 2009), particularly if insurgents do not lay down arms to compete as political parties. In Afghanistan, new evidence suggests that the Taliban tried to offer a peace settlement to join government shortly after their fall and during the Constitutional Loya Jirga that negotiated democratic institutions. President Karzai apparently refused to allow them to be included. But more recently, the Afghan government, with support of the international community, has worked towards a negotiated settlement to bring the Taliban back into formal politics, which may affect the degree to which the group threatens future elections.

Second, we lend insights to studies on the economic characteristics of political violence (Dell and Querubin, 2016; Dell, 2015), including those specifically focused on the design and goals of criminal enterprises, like gangs (Skarbek, 2014; Levitt and Venkatesh, 2000a,b), mafias (Gambetta, 1993), pirates (Leeson, 2007), and terrorists (Berman, 2011; Shapiro, 2013; Berman and Laitin, 2008). We examine the violent strategies and related outcomes employed by insurgents. Similar to other illicit groups, insurgents face managerial dilemmas and principal-agent problems that must be solved to achieve joint goals in the shadow of illegality (Dixit, 2004; Leeson, 2007). But rather than only employing informal within-group institutions to conduct proscribed activities alongside of formal institutions (Gambetta, 2009; Skarbek, 2014), insurgents form a unique class of unlawful actors who ultimately seek control of legal state institutions through criminal and political violence. In so doing, they compete with the incumbent government to capture the state and "heart and minds" of the public, even as individual insurgents benefit from continued criminal or black market behavior. We explore the optimization problems constraining insurgents' need to use violence while minimizing civilian deaths to maintain the public's support, distinguishing insurgent groups from other kinds of criminals that may maximize damage to official government targets and wish to remain illegal (like terrorists), strategically or indiscriminately attack civilians to foment fear (like

some gangs, terrorists, and rebels), and/or limit violence to other competing illegal groups and their members to increase their profits from rent-seeking and black market activities (like mafias and gangs). Facing this constraint, we explore the empirical implications of variation in insurgent strategies to demonstrate the "rational design" of this type of illicit organization and how it operates outside the legal confines of the state.

Third, we add to a burgeoning literature in behavioral economics and psychology on how violence in developing countries affects a range of citizen behavior, like risk assessment (Callen et al., 2014; Voors et al., 2010) and the decision to invest (Blumenstock et al., 2016). We specifically examine how insurgent violence affects citizens' electoral participation and voter turnout (Berrebi and Klor, 2008; Condra et al., 2016), an aspect of a larger literature on how prior exposure or threats of violence from diverse political actors impacts political participation (Bellows and Miguel, 2009; Blattman, 2009; Collier and Vicente, 2014; Jung and Long, 2016; Ferree et al., 2015; Hidalgo and Driscoll, 2014; Gutierrez-Romero, 2014; Collier and Vicente, 2012). Mixed results from these studies demonstrate that violence and intimidation could generate *both* higher or lower political engagement and mobilization depending on context and other individual-level factors. Our results on the negative effect of insurgent violence on turnout serve as a counterpoint to studies that show a positive effect on political participation from such factors as recent criminal victimization (Bateson, 2012) and previous exposure to violence through abduction into insurgent groups (Blattman, 2009). The dramatic decline in turnout that we document in Afghanistan does not challenge the validity of these and other results, but it does demonstrate that violence's effects on political participation may vary considerably depending on the type of participation and violence under study. Whereas Afghan voters in our study no doubt want to avoid harm, the competition for "hearts and minds" between the government and insurgents could plausibly drive voters to demonstrate support for the government by increasing turnout, or avoiding elections to show support for the Taliban. We show that despite these competing pressures to capture the allegiance of the population and its effect on election outcomes, insurgent attacks in Pashtun areas differentially cause lower voter turnout. Whereas the avoidance of harm does not necessarily indicate greater support for the government or insurgents, our empirical investigation into the effects of violence on behavior provides important

evidence on the degree to which insurgent actions undermine democratic institutions by affecting electoral participation.

Last, our findings contribute to ongoing debates about the role of elections in conflict-ridden and developing democracies (Brancati and Snyder, 2011; Bush, 2015; Hyde, 2011b; Kelley, 2012; McFaul, 2010; Brancati and Snyder, 2013; Mansfield and Snyder, 2005a; Roessler, 2005; Snyder, 2000), especially regarding the timing (Brancati and Snyder, 2013; Flores and Nooruddin, 2012) and design features (Reilly, 2016) of electoral processes. We theoretically account for and empirically document the damage the Taliban has inflicted on electoral institutions and voters in Afghanistan over the last decade above and beyond the routine violence they commit against the state. The nature and extent of this damage could reasonably encourage arguments against the introduction of elections at moments of early state-building and regime transition in conflict settings (Fukuyama, 2014; Mansfield and Snyder, 2005a; Zakaria, 1997). But our findings also demonstrate that despite their best efforts, insurgents have failed to definitively stop elections in Afghanistan, and indeed, millions of voters continue to turn out (Coburn and Larson, 2014; Jung and Long, 2016). While the nascent democratic regime in Afghanistan continues to face many challenges related to security, the country's democratic institutions have survived insurgent violence and the current government continues to work towards institutional strengthening and reform. While it is beyond the scope of this paper to advocate for or against election processes in Afghanistan based on the perennial occurrence of insurgent electoral violence, our results do provide important evidence to action on how, in the context of growing violence around elections, counterinsurgency efforts might alter force deployments and tactics to increase voter participation and reduce civilian casualties. We therefore join a larger body of studies on counterinsurgent strategies to combat and deter terrorist violence (Berman et al., 2011a,b; Condra et al., 2010; Shaver and Shapiro, 2016; Beath et al., 2013), including with respect to the role played by outside actors working with host governments to win "hearts and minds" of the civilian population (Lake, 2016). Securing the peace around elections would no doubt serve an important function towards helping weak states strengthen political order and democratic institutions while protecting citizens' participation. Overall, we believe our approach, use of rich data sources, and results provide comparative insights and findings

to other transitioning countries where elections have been advocated or implemented but where insurgent violence threatens the consolidation of democratic institutions, including Somalia, Yemen, Libya, Egypt, and the Palestinian territories.

The paper proceeds as follows. In Section 2, we provide theoretical motivation to study inclusive institutions and state-building in the developing world, focusing on elections. We show that despite their proposed benefits, elections frequently suffer swells in insurgent violence. We outline the optimization problem facing insurgents that desire to disrupt elections while minimizing civilian harm. Section 3 discusses background to elections and insurgent electoral violence in Afghanistan, noting variation over time and space. We provide descriptive qualitative evidence from primary and secondary sources that reflect the Taliban's aims, and show quantitatively that they increase attacks in electoral periods. Section 4 presents our research design and identification strategy to quantitatively test the observable implications of our theory regarding insurgents' optimization problem and how it shapes their strategies over time and space. We discuss these results and robustness checks in Section 5, and Section 6 concludes.

2 Theoretical Motivation

2.1 Inclusive Institutions, State-Building, and Violence

Studies in political economy have long highlighted the contribution of institutional endowments to the consolidation of state-building (Fukuyama, 2014; Huntington, 1968; Barzel, 1997), and consequently, a country's long-run economic performance (Debreu, 1959; North and Thomas, 1973; Engerman and Sokoloff, 1997; North, 1981; Acemoglu et al., 2001) and levels of social capital (Nunn et al., 2016; Tabellini, 2010; Becker et al., 2016). Institutions, such as the rules regulating the enforcement of contracts and the protection of property rights (Greif, 1993, 2006), help states' construction and consolidation of political order and the growth of markets by constraining the leviathan's desire to expropriate resources from productive economic sources (North and Weingast, 1989; Barzel, 1997; Greif, 1989; Greif et al., 1994). Accordingly, institutions appear to correlate with stronger economies when countries' bureaucratic capacity is sufficiently strong to regulate

economic matters (Besley and Persson, 2009), monopolize violence (Tilly, 1993; Fukuyama, 2014), and constrain the executive to make policy-making processes more inclusive to diverse economic and social actors (North and Weingast, 1989; Acemoglu et al., 2001, 2005; Acemoglu and Robinson, 2006; Weingast, 1997). But problematically, the endogenous relationship between state strength and economic growth means that poor countries typically lack institutional endowments that solidify state capacity and/or have leaders that fail to build or uphold inclusive institutions (Bueno de Mesquita et al., 2003; Besley and Persson, 2009, 2011; Acemoglu et al., 2014b; Brewer, 1989; Hoffman and Rosenthal, 1997; Persson and Tabellini, 2004). As a result, certain groups may turn to violent rebellion as a means to gain power and take control of the state (Haggard and Kaufman, 2016; Acemoglu et al., 2014a; Greif et al., 2002), generating the well-documented empirical relationship between low state strength and economic performance with increasing levels of political violence across the developing world (Collier, 2009; Besley and Persson, 2014).

To forestall the potential defection of diverse groups from formal politics brought about by violent resistance, scholars and policymakers have advocated for competitive elections as a specific inclusive institutional fix to bolster the strength of the state in developing, conflict-prone societies (Hyde, 2011a; Kelley, 2012).[1] The theoretical underpinnings of this approach rest on predictions regarding numerous hypothesized ameliorative effects of elections. First, elections build state capacity by legitimizing the regime—when citizens participate in elections and choose their leaders, the population (peacefully) signals its consent to be governed (Berman et al., 2013; Lake, 2011; Levi, 1988; Norris, 2014; Lindberg, 2006). Second, elections constrain the executive by allowing citizens to hold governments accountable for economic performance, political reforms, and the provision of services (Barro, 1973; Ferejohn, 1986; Fiorina, 1981; Persson and Tabellini, 2004; Besley and Persson, 2011, 2009). As a result, democratic governments are more likely to provide public goods and experience less corruption than non-democratic ones (Bueno de Mesquita et al., 2003; Keefer, 2007). Finally, elections reduce incentives for violence by allowing political contestation

[1]We follow Schumpeter in considering "democratic" elections in minimally procedural terms, where seats are competitive. We do not examine additional components to democracy, such as the protection of minority rights or constitutional power-sharing. While we label Afghanistan an emerging democracy because of our focus on competitive elections, we recognize that it might be considered a hybrid or semi-authoritarian regime similar to many cases in the developing world where elections occur but with restrictions on competition (Levitsky and Way, 2010; Magaloni, 2008; Blaydes, 2013), including with respect to the occurrence of election fraud and violence.

through formal institutions (Dunning, 2011; Roeder and Rothchild, 2005) that alleviate credibility problems between warring factions (Walter, 1999; Wantchekon, 2004). Including former or potential rebels within agreements that allow them to compete politically through open and transparent mechanisms should decrease the likelihood of renewed conflict, especially if international involvement helps to arbitrate peace agreements (Matanock, 2012, 2014) or oversee and manage elections (Fearon, 2011). Elections are therefore viewed as a critical component to state-building, and countries with inclusive governments are more likely to enjoy institutional foundations that provide and sustain long-run economic performance (Robbins et al., 2013; Acemoglu et al., 2001, 2005, 2014b).

However, in spite of this ideal type, the empirical record demonstrates that elections sometimes have failed to assist democratization as in many transitioning contests, elections correlate with new or renewed conflict (Collier, 2009; Collier and Vicente, 2014; Hafner-Burton et al., 2014; Hyde and Marinov, 2012; Mansfield and Snyder, 2005b; Snyder and Jervis, 1999; Saideman et al., 2002), especially where states lack bureaucratic capacity and well-functioning security services capable of maintaining the domestic peace (Collier, 2009; Condra et al., 2016). One reason election violence occurs is because formal rules for incorporating diverse constituencies have not always proved inclusive on paper or in practice, and power-sharing arrangements between formerly warring factions frequently do not hold or fail shortly after initiation (Brancati and Snyder, 2013; Hartzell and Hoddie, 2003; Hartzell, 1999; Hglund et al., 2009; Mansfield and Snyder, 2005b). Despite allowances for participation from many or most parties, certain rules may impose constraints that affect competition.For example, after the fall of Hosni Mubarak and transitional elections, the Egyptian military scuttled electoral victories gained by the Muslim Brotherhood, despite the group's popularity. The government has outlawed the party, who carried out sustained protests and attacks against the state in response Moreover, efforts to encourage broad participation even without restrictions may be unsuccessful, either presently or in the future. The Bush Administration's attempts to boost Sunni participation in Iraq's post-Saddam government did not prevent the majority Shiites (with Kurdish allies) from excluding, or making Sunni politicians feel excluded, from institutional arrangements meant to bolster power-sharing. This eventually contributed to the Sunni insurgency (Gordon and

Trainor, 2012).[2] Finally, insurgents may explicitly opt out of participation as some groups may desire to stay outside of the system given political goals or ideologies anathema to participating in democratic elections, like al-Shabaab's Islamist commitments in Somalia (AP, 2016; Gaffey, 2016).

Several important theoretical and empirical questions therefore arise whose answers illuminate the relationship between democratization and the development of the state in poor and conflict-prone countries. The first involves accounting for the core goals of insurgents who are excluded from (or opt out of) the electoral process and the degree to which elections matter (if at all) to their violent political aims. While the literature underscores the need to make institutions inclusive, if potential rebels are excluded, it is not obvious whether they would differentially change violent tactics to attack the state or voters during elections. Other considerations could be more likely to influence their behavior, such as weather and the seasonality of fighting. This is especially true if the government increases security deployments to protect voters (Condra et al., 2016), making election strikes operationally more difficult compared to non-election ones. Why, then, do insurgents desire to disrupt elections?

The second question involves how insurgents use violence to achieve goals, conditional on their decision to disrupt. For example, studies in civil war contexts have noted the importance of insurgents restraining violence against civilians in some cases (Weinstein, 2007; Horne, 2006), while in others rebels appear to indiscriminately or strategically target civilians (Kalyvas, 2006). These studies have not said whether and how insurgents might be constrained in violence against civilians in the context of elections. Would insurgents pursue strategies to attack state targets, but somehow try to avoid undue harm to the public? This question is especially salient since even though insurgents may attack electoral targets like the state (polling stations), these will necessarily pose risks to voters. Methodological challenges and a lack of fine-grained data in most contexts have thus far prevented scholars from systematically isolating the effects of electoral violence on electoral outcomes, like voter turnout, due to endogeneity or spurious factors.

[2]Despite Coalition Provisional Authority (CPA) Orders 1 and 2 disbanding the Iraqi security forces and calling for de-Baathification following the U.S. invasion of Iraq in 2003, then-CPA Administrator Paul Bremer explicitly included Sunnis in early power-sharing institutions in Iraq (Bremer, 2006). However, over time, the ability of Shiite political actors to force majoritarian features of the system to their advantage and Sunni inclusion helped to spur the Sunni insurgency.

2.2 Why Do Insurgents Disrupt Elections?

To address these questions, we explore whether, why, and how insurgents may disrupt elections. We argue that elections offer a particularly attractive opportunity for insurgents to subvert democratic processes. Governments conduct elections as plebiscites to solidify their rule and strengthen legitimacy, and elections thus serve as an important benchmark in the battle for the "hearts and minds" of the population. Elections are an important symbolic and functional coordination point—they usually occur at one time and embody the most crucial activity in delegative democracy (Fearon, 2011; Ferejohn, 1986; Fiorina, 1981). This does not mean attacks on other days do not also assist in achieving insurgents' larger goals, but for reasons we explicate, election day is particularly attractive. An intuitive strategy would employ violence both to reduce participation in this institution and to demonstrate the government's inability to carry out one of its most basic functions—exercising a monopoly over the use of force to protect citizens. Moreover, minimizing voter turnout vitiates the primary signal of compliance of the population to the political authority and legitimacy of the state; spoiling elections undermines the government generally and candidates contesting office specifically. Thus, insurgents will want to disrupt elections by threatening or perpetrating acts of violence to discourage citizens from casting ballots (e.g., raising the probability of violence increases the personal cost of turning out) or simply preventing turnout altogether (e.g., destroying polling stations). Furthermore, insurgents might increase attacks during elections precisely to signal to the civilian population that the government lacks control and the ability to provide security, further eroding positive views of the government and potentially increasing civilians' support for insurgents or for more conciliatory government policies, at least in the short term (Jaeger et al., 2012, 2015).[3]

In line with this logic, we would expect to see larger levels of insurgent violence on election day compared to other times, even days leading up to or following elections. This prediction notwithstanding, the scant empirical evidence from investigations of the effects of insurgent electoral

[3]There is growing systematic evidence that terrorist attacks affect voting behavior. Terrorism increases support for right-wing parties among Israeli citizens (Berrebi and Klor, 2006, 2008), but may shift the entire electorate leftward on the policy dimension of the Palestinian question (Gould and Klor, 2010). Getmansky and Zeitzoff (2014) show that even the threat of violence to Israeli citizens, as measured by the exogenous change over time in the geographic range of rockets fired from Gaza, increased the right-wing bloc's vote share by 2 to 6 percentage points. Spanish voters may have shifted support to left parties against the incumbent government's support of the Iraq Invasion in response to the Madrid bombing in 2004 (Bali, 2007; Montalvo, 2011), which occurred a few days before the election.

violence on turnout is mixed. As previously noted, some insurgent groups, like Boko Haram in Nigeria, appear to avoid elections altogether and do not differentially change tactics with respect to electoral periods. However, conditional on electoral violence, more generally, several studies posit a *positive* relationship between political participation and exposure to violence (Bateson, 2012; Bellows and Miguel, 2009; Blattman, 2009). Voters may even go so far as to explicitly support and turn out for politicians who employ violent tactics (Gutierrez-Romero, 2014) or parties representing their ethnic group, sect, or region (Wilkinson, 2004). To explain this pattern, Robbins et al. (2013, 498) reason that insurgents' use of terrorist tactics increases citizens' fear and anxiety, which makes citizens "more inclined to take part in the political process in order to ensure that their voices are heard," and find that pre-election terrorist incidents are positively correlated with country-level turnout in a panel study of democracies. Conversely, violence may depress turnout if voters fear the consequences of their participation on their personal safety (Collier and Vicente, 2014). Prior exposure to violence in conflict settings may affect how individuals calculate risk (Callen et al., 2014) and therefore the perception of threat by voters of incumbent intimidation may lead voters to avoid polls (Hidalgo and Driscoll, 2014; Ferree et al., 2015).

Beyond contextual factors, one potential reason studies may generate mixed results on turnout arises from the difficulty inherent in empirically isolating the independent effect of violence from other factors that affect insurgents' decision-making on the use of violence that also correlate with turnout. Another empirical limitation arises because many of the studies that estimate the effects of violence on turnout focus on violence emanating from formal political actors, like incumbent governments and legal opposition parties and candidates contesting office (Mehler, 2007). The goals of these official actors are typically to employ violence to deter the opposing side's voters from going to the polls (Collier and Vicente, 2014), reducing turnout (Hickman, 2009; Bratton, 2008). But while there are parallels between legal candidates' and illegal insurgents' use of violence to influence turnout, there are important differences. Whereas insurgents use violence because they are weak relative to the government (Grossman, 1991), political parties or candidates could use it because they are strong, especially if they act on the behest of incumbent parties with vast state resources. Moreover, candidate-sponsored electoral violence occurs within a strategic environment

where candidates desire to participate in and win elections, and so they should employ violence to gain seats (for example, by depressing an opposition party's votes) (Acemoglu et al., 2013; Robinson, 2016). We focus instead on insurgents that do not take part in elections and do not seek to "win" formally in this way; therefore, the strategic considerations for insurgents using violence, and the way they influence electoral outcomes, are potentially different.

2.3 Insurgents' Strategic Use of Election Violence

Insurgencies seek to overthrow central state authority through armed conflict. They desire to overturn the existing regime and institute a new political and social order, and therefore by definition, their actions are illegal. Since insurgents' vision for such an order is usually antithetical to democracy, this goal requires taking over the (nominally democratic) incumbent government through the violent use of force. And as we have seen, electoral violence may assist insurgents in this goal. What, then, shapes insurgents' violent electoral tactics?

To frame the strategic environment that shapes insurgent behavior, our point of departure analogizes insurgents to illicit organizations, like criminal gangs or mafias, which act outside of the bounds of the law. Insurgents illegally strive, using violence, to influence the functioning of formal politics to serve their long-term goal of overthrowing the government and capturing the state to institute their own political order. Insurgents differ from governments because they hold extremist and ideological views of government, frequently not amenable to democratic practices.

Given differences in aims between non-state insurgents and other political actors, we begin by considering what shapes and constrains insurgents' production of violence around elections. One set of factors emanate from features of insurgent groups as organizations, and manifest as principal-agent and management problems (Gates, 2002; Shapiro and Siegel, 2012). In his wide-ranging investigation of the organizational dynamics of terrorist groups, Shapiro (2013) surveys available documents recovered from covert organizations and finds evidence that they exert considerable effort to calibrate their use of violence in order to achieve political goals, as rampant indiscriminate violence could waste resources, alienate civilians, and cause a strong counterinsurgent response. Hindering these organizations' ability to coordinate violence consistently is that there exist het-

erogeneous preferences among members along various dimensions and the ability to shirk, along with the need for operational secrecy, create manifold managerial dilemmas for leaders. In addition to acts of violence, rebels also conduct criminal activities, including revenue extraction from illicit enterprises (e.g., the drug-trade or smuggling) to support operations, and may require coercion and policing of members and population (Gates, 2002; Weinstein, 2007).

Beyond internal organizational dynamics, insurgents also confront external factors shaping their production of violence. We argue a critical constraint involves how civilians respond to insurgent-produced violence in a context of "competitive governance," where the government and rebels compete for public support (Berman et al., 2011b; Berman and Matanock, 2015) and insurgents' realization of political goals depends on the cooperation of the population (Galula, 1964; Thompson, 1966).[4] Considerable evidence shows that in civil wars, people withdraw support from insurgents or governments that harm civilians in the course of conflict (Birnir and Gohdes, 2012; Valentino et al., 2004; Condra and Shapiro, 2012). Shapiro (2013, 171) details how this dynamic affected the Provisional Irish Republican Army (PIRA) as it sought to challenge British rule: "The political goals of the PIRA required great care in the application of violence. The group had to place sufficient military pressure on the British so as to compel them to give up Northern Ireland, while at the same time avoiding excessive violence that would cost the PIRA the support of moderate Catholics or make it politically impossible for British politicians to 'abandon' the Protestant majority by leaving Northern Ireland". Multiple contexts provide additional examples of insurgents exercising restraint in their treatment of civilians, including the National Resistance Army in Uganda (Weinstein, 2005), Tuareg insurgents in Mali (Humphreys and Mohamed, 2005), and the Bougainville Revolutionary Army in Papua New Guinea (Pelton, 2002).

The need for insurgents to obtain civilian support for operational success is important for many reasons. As an example, insurgents are particularly vulnerable to citizens informing to the government (Berman and Matanock, 2015). As Berman et al. (2011b, 773) explain, "the silence of the population, or a substantial portion thereof, is critical for insurgent success." One measure of

[4]This dynamic may be attenuated in cases where the government and/or insurgents can rely heavily on support from outside actors (Wood et al., 2012). While both the Afghan government and Taliban insurgents receive political and material assistance from international actors, we demonstrate that the attempt to consolidate domestic political authority and legitimacy requires support from the population.

popular support in this context involves the flow of information from civilians to counterinsurgents, which could be affected by levels of violence that civilians experience. Insurgents may seek to minimize informing by threatening retaliation, minimizing collateral damage, and destroying or disrupting informing channels themselves (Shapiro and Weidmann, 2015; Shaver, 2016). Condra and Shapiro (2012) thus argue that civilians punish insurgents responsible for collateral damage by sharing more information about insurgents with government forces and their allies, a phenomenon corroborated by Shaver and Shapiro (2016) using "tips" data from the Iraq war. While we expect insurgents to be mindful of avoiding harm to potential supporters as a general principle, because of heightened violence around elections, greater proximity of civilians to potential insurgent targets, and heightened media reporting of election-day events, insurgents should be even more careful of avoiding harm to civilians than usual.

To summarize, in the case of elections, although insurgents want to disrupt the process, the need for civilian support constrains their use of that violence. Given such an increase in violence, *how* do insurgents attempt to distribute that violence to maximize disruption of electoral process *and* minimize civilian damage?

3 Setting: Afghanistan

3.1 Institutional Environment

To gain theoretical and empirical traction on the decision to disrupt elections and the factors shaping this behavior among insurgents, we examine insurgent electoral violence in Afghanistan. While unique in some respects, Afghanistan provides an institutional environment characteristic of other weak states where elections have been introduced but continue to be threatened by insurgent elements that have been excluded from formal participation in politics, both as the result of actions by the government and the goals of insurgents. Insurgent electoral violence has varied across space and time in Afghanistan (and over multiple electoral rounds). Studying longitudinal and spatial variation in Afghanistan therefore provides extraordinary within-case variation in patterns of violence while holding constant country-level factors that affect the dynamics of insurgent violence.

Afghanistan also provides an unusually data-rich environment, allowing for higher quality estimates of the effects of violence on electoral outcomes, which we elaborate on below. Here, we discuss Afghanistan's electoral context and the behavior of the Taliban insurgency, relating these dynamics to the theoretical and empirical insights on insurgent electoral violence in transitioning democracies.

Like many conflict-affected states, Afghanistan suffers from weak state capacity (Mukhopadhyay, 2014; Chayes, 2006; Barfield, 2010). Beyond the government's inability to quell insurgent violence (Malkasian, 2016), this includes corruption and ineptitude in the national police (Giustozzi and Isaqzadeh, 2012), nepotistic and authoritarian presidential policies under Hamid Karzai (Rashid, 2012), financial fraud within the country's then-largest bank (Rubin and Risen, 2011; Partlow, 2016), and wide-spread and persistent electoral fraud (Callen and Long, 2015).

Nonetheless, elections have been an important component to state-building in Afghanistan since the fall of the Taliban after the U.S. invasion in 2001 (Rashid, 2012). Similar to all transitioning democracies emerging from conflict, elections in Afghanistan serve to solidify the authority and legitimacy of the post-Taliban government, grant new space for former combatants to compete peacefully for the distribution of power and resources within elected office, and allow the population to signal compliance through participatory acts like voting. Therefore, the international community, and in particular the U.S., has continued to see elections as a core institutional benchmark. Following the invasion, members of the Coalition sought to establish democratic institutions in Afghanistan for the first time in generations, following decades of sectarian conflict and rule by the strongly anti-democratic and Islamist Taliban regime. This involved the creation of a Constitutional Loya Jirga (CLJ), a large and inclusive governing council that gained membership from thousands of leaders and notables from all regions and many walks of Afghan life. With U.S. backing, Hamid Karzai, an ethnic Pashtun who had mostly been in exile in Pakistan during the Taliban reign, was installed as president (Partlow, 2016). The CLJ ratified Karzai's position and worked to create democratically elected presidential and parliamentary institutions. As a result, the first presidential elections occurred in 2004, when Karzai gained a majority of votes and his position was legitimized by the electorate. Karzai won re-election in 2009 against his main challenger, Abdullah Abdullah, after a disputed vote result. Whereas the 2010 parliamentary election was seen as a

critical benchmark to demonstrate government control in the shadow of Coalition withdrawal, its messy character further eroded legitimacy and the belief that the Afghan government could control territory. In 2014, Karzai stepped down due to term limits and peacefully transferred power to Ashraf Ghani, another Pashtun, who ran against Abdullah in a race that went to a second round (given Afghanistan's two-round electoral rule that a winning presidential candidate must gain a majority of votes to be elected). Abdullah disputed Ghani's victory and forced a full vote audit, overseen by the United Nations. The results of the audit, themselves disputed, backed the Independent Elections Commission's (IEC) certification of Ghani as the president. However, under diplomatic pressure and with continued prodding from Abdullah about the election's result, Ghani appointed Abdullah as a newly created chief executive officer in his government, a de facto form of inclusive government and power-sharing. The government continues to work on important constitutional revisions to further clarify and reform the role of the executive, legislative, and judicial bodies in government.

Importantly, while the formation of the CLJ demonstrated early attempts at inclusive politics by encouraging and allowing for broad representation (continuing today with Ghani and Abdullah in government), formal political processes and institutions *did not* include the Taliban. After the overthrow of the Taliban in late 2001, the U.S. and Coalition forces continued the hunt for Osama bin Laden, al-Qaeda's leader, and Mullah Mohammad Omar, the Taliban leader. While both were thought to be in Pakistan, newer research suggests that Mullah Omar tried to reach out to Karzai to bring the Taliban into a negotiated settlement with the new government soon after the invasion. Karzai rejected these overtures. Partly as a result, the Taliban and related insurgency continues unabated to this day. The growing realization of the need to include the Taliban in a negotiated settlement for the long-term prospects of peace is reflected in the numerous (although controversial) recent attempts by the Afghan government and the Obama Administration to find a political solution with the Taliban joining formal political processes (like elections) in exchange for the peaceful cessation of laying down arms.

3.2 Insurgent Violence

Similar to other kinds of illicit organizations, extensive qualitative evidence indicates that the Taliban have had to strategically adapt their goals in response to changing circumstances (Coughlan, 2009, 130-131), particularly in the context of elections. There are several areas in which the Taliban has overcome the managerial dilemma of running an illegal organization, including changing its internal organizational structure (Giustozzi, 2008, 2009; Van Bijlert, 2009). Disagreements between leaders and members over political goals, as well as operational elements such as tactics and targets, produced many organizational challenges that are similar to those facing criminal networks (Rashid, 2008b, 95-104) with respect to command and control. For one, leaders of these organizations are forced to sanction their members to keep them in line (Shapiro, 2013, 79-81). In the case of the Taliban, we have evidence of sanctioning over policy dealing with violence in particular (Semple, 2014). Not only did Taliban leaders replace insurgent commanders in between the first and second rounds of the 2014 election for not producing enough attacks designed to disrupt the election, but "some commanders in eastern Afghanistan were even executed for negligence and dereliction of duty" (DI, 2015, 33-34). There is also rich evidence that disagreements arise over money within these organizations, which heightens the temptation to benefit financially from criminal activity that may be proscribed by leadership (Shapiro, 2013, 73-76), particularly when profit resulting from this kind of member defection is large (Berman, 2011, 34-37). For the Taliban, this has taken the form of smuggling goods across borders (Byman, 2005, 197) and heavy reliance on and involvement in the opium trade (Rashid, 2008b, 117-27), in which regional and even village-level Taliban leaders maintain considerable control over the extraction process and have opportunity to misreport earnings to higher level leaders in the organization (Peters, 2000).

However, beyond their day to day criminality, the overall expressed goal of the Taliban is to generate political and social change by upending the existing order. The Taliban want to overthrow the (nominally democratic) government and impose an Islamist regime in Afghanistan (Marsden, 1998, 57-66),[5] not amenable to democratic institutions and accountability. Therefore, they do

[5] "The Taliban have given Islamic fundamentalism a new face and a new identity for the next millennium–one that refuses to accept any compromise or political system except their own" (Rashid, 2008b, 94). Mullah Amir Khan Motaqi, the Taliban's acting minister of information and culture, stated this view as early as 1996: "The Islamic

not want to compete as a political party to win legislative seats like insurgent groups in other contexts, but rather subvert the regime altogether.[6] This is clear from how the Taliban ruled when vying for power in the early 1990s and after they came to power in Afghanistan (Rashid, 2008a). Mullah Omar, the Taliban's founder and leader during this time, "appeared to genuinely believe that Afghanistan's foreign and domestic policies should follow his interpretation of Islam, not realpolitik or domestic politics" (Byman, 2005, 192). Articulating the overarching goal of the Taliban, Mullah Omar was quoted as saying that the organization sought "'to establish the laws of God on Earth and prepared to sacrifice everything in pursuit of that goal'" (Byman, 2005, 192).[7]

Accordingly, the Taliban has sought since the invasion to undermine the legitimacy of the newly constituted government by affecting elections through violence, though not always in the same way. The elections of 2009, 2010 and 2014 were dramatically different from those in 2004 in 2005 in the level of violence employed and in how insurgents threatened candidates and the population (DI, 2010, 2015; FEFA, 2011, 59). In the lead up to the 2005 election, some observers reported Taliban violence (NDI, 2005, 6-7), but others conclude that "there even remain questions about whether the Taliban were actually interested in disrupting them [elections] at all" (Coburn and Larson, 2014, 168). Giustozzi (2008, 114) observes that "the Taliban showed their readiness to defer to the desire of local communities to vote and avoided any major effort to sabotage the electoral process, despite having declared their opposition to the elections." The lack of violence during these periods critically did not result from incapacity, but rather was a strategic choice. As Giustozzi (2008, 114) argues, "[i]t is hard to believe that the Taliban, who could take districts and police stations, would not be able to take a polling station defended by a few policemen, had they wanted to" in 2004 and 2005. The reason for this strategy is still debated, but one possible reason the Taliban allowed voter registration and turnout to such a high degree was because in 2004 the Taliban were inclined to be

state of Afghanistan, under the leadership of the Taliban Islamic movement, has put into practice everything that it has preached, according to God's law and the guidance of the magnificent Holy Qur'an. Any step which has been taken by the Islamic state has been in conformity with the Shari'a and whatever has been said in words has been implemented in action" (Marsden, 1998, 62).

[6] "Of significant note is that the Taliban did not attempt to form a distinct party as a 'political wing' of their larger movement, but rather chose to run under the labels of existing conservative Pashtun parties. All of those who ran stressed their credentials as mujaheddin prior to switching allegiance to the Taliban, downplaying, but not denying, their Taliban past" (NDI, 2005, 24).

[7] For an authoritative account of Taliban rule in the 1990s, see Rashid (2008b).

supportive of Karzai in the hope that he could broker a deal to end the insurgency, and in 2005, they hoped that the elections would return pro-Taliban sympathizers in Parliament (Giustozzi, 2008). This strategy—characterized by a relative lack of violence used and a cautious optimism in what the outcomes of the elections would mean for the Taliban vis-a-vis the state—changed markedly over time in response to changing political goals and realities. Even as more violence was used in later elections, it could not guarantee the Taliban's preferred outcomes—decreased turnout in some districts and increased turnout to vote for preferred candidates in other districts.

In advance of the 2009 and 2010 elections, the Afghan government and Coalition forces again expected increased violence (Bumiller and Nordland, 2010), and election observers noted the uptick in insurgent violence in 2009 and 2010, relative to earlier elections, including threats against political candidates, aid workers, and voters (DI, 2011, 20-21)(NDI, 2011, 11)(FEFA, 2011, 45). UNAMA data indicated a 31% increase in civilian casualties in the first six months of 2010 relative to the same period in 2009 (FEFA, 2011, 44). The Taliban increased their attacks against Coalition forces in the lead up to elections (DI, 2010, 32) and distributed leaflets at mosques in the East and South, threatening to harm anyone who cast ballots, and these threats were backed up with incidents of violence (Vogt, 2010). Possibly because insurgents issued thousands of night letters across the country stating their intention to carry out violence against civilians and electoral institutions on election day in 2009 and 2010 (DI, 2010, 18) (FEFA, 2011, 59), ISAF and ANSF reportedly carried out more than 2,800 counterterrorist operations in the three months leading up to election day in 2010 in the hope that this would keep insurgents from being able to launch large scale attacks on election day and disrupt the voting process (NDI, 2011, 17). The security situation had not changed much by the 2014 race, as UN statistics showed a 22% and 40% increase in security incidents in the 5-month lead up to the first round of the 2014 election, relative to the same period in 2013 and 2012, respectively (DI, 2015, 20), and there were reports of violence on voting day of the first round of voting, though levels varied considerably across districts (DI, 2015, 23-25).

Thus, levels of insurgent violence vary across and even within elections, and the effects of that violence on turnout remains an open question. While there is anecdotal evidence that it inhibited

voters,[8] there is other evidence that violence had less of a deterrent effect than intended.[9] The Taliban's leadership seems to have adjusted its strategic use of violence, but did it work? Did it succeed in one of its most basic goals, deterring turnout at the polls? We investigate this critical question empirically in the next section.

Insurgents must balance the goal of violently disrupting elections at the same time as retaining popular support by minimizing harm to civilians. Considerable evidence supports the idea that even when the Taliban use violence more liberally, leaders show an awareness of the need to calibrate that violence to avoid undue harm to civilians. For example, there have been disagreements between high-level Taliban leadership over whether to increase the use of suicide bombing as a tactic because they worry about the adverse effects of resulting civilian casualties (Giustozzi, 2008, 117). Though civilian casualties are recognized as an unavoidable byproduct of IEDs and suicide bombings, the Taliban provide excuses for their actions to the population, showing a sensitivity to civilian reaction (Giustozzi, 2008, 117). The Taliban have even gone so far as to warn civilians in rural areas (but not urban ones) of impending attacks to avoid harm (Giustozzi, 2008, 117). Taliban code of conduct documents (Layha) dating from at least 2006 provide primary evidence of this overriding concern in the use of violence: "If an official or an ordinary person harms the common people in the name of mujahedin, his senior officer is responsible for reforming him" (Clark, 2011, 26).[10]

This evidence accords with the argument that the insurgents' purpose of using violence on and around elections was not to inflict harm on civilians, but rather "one of intimidation, designed to deter rather than to actually kill voters" (DI, 2010, 36), "to give citizens the sense that they

[8] "In both Gardez and in Qara Bagh, there were failed bomb attacks in 2009 that people were still discussing in 2010 and which clearly shaped debates over the approaching parliamentary poll" (Coburn and Larson, 2014, 171).

[9] "[R]elatively few people we talked to appeared to actually decide not to vote [in 2010] based on this threat [of Taliban violence], with the effectiveness of parliament and corruption of the electoral process much more likely to deter them" (Coburn and Larson, 2014, 169-70). Also see Condra et al. (2016), who report on systematic survey evidence of voters in 2010 consistent with this observation, and Jung and Long (2016) who find that previous exposure to violence did not systematically affect the propensity to vote in the 2010 election.

[10] From 2009: "In carrying out martyrdom operations, take great efforts to avoid casualties among the common people" (Clark, 2011, 21). From 2010: "The Taliban must treat civilians according to Islamic norms and morality to win over the hearts and minds of the people" (AP, 2010), and "All efforts must be made to avoid harming civilians in attacks" (AP, 2010). In a letter from Taliban leadership to UNAMA in 2013: "According to us civilians are those who are in no way involved in fighting. The white-bearded people, women, children and common people who live an ordinary life, it is illegitimate to bring them under attack or kill them" (UNAMA, 2013, 29). Taliban code of conduct (as quoted in Ahmed CS Monitor 2009): "'Every member of the Mujahideen must do their best to avoid civilian deaths, civilian injuries and damage to civilian property. Great care must be taken ... Suicide attacks should only be used on high and important targets. A brave son of Islam should be used for lower and useless targets.'"

are unsafe and can become victims at any moment" (Coburn and Larson, 2014, 171). Indeed, the primary goal of violence in this context "is not the number of casualties, but the impact that it has on the wider population" (Coburn and Larson, 2014, 171).[11]

Numerous qualitative accounts support the view that beyond minimizing civilian casualties across their attacks generally, the Taliban also pursues this strategy specifically with election violence. Regarding the 2009 election, journalists observed that "the Taliban has conducted a series of calibrated attacks aimed at using the minimium amount of violence to reduce voting as much as possible" (Kagan 2009), while also trying to minimize civilian casualties.[12] Regarding the 2014 elections, Semple (2014) notes that the Taliban rejected the legitimacy of the race, and that in issuing instructions to officials and commanders to disrupt the election, military leadership allowed field commanders discretion on choice of tactics and targets, in part reflecting concern over effects on civilians.[13] Therefore, it is clear that the Taliban faced constraints against harming civilians while affecting electoral disruption.

While reports and primary documents from the Taliban anecdotally support our argument that insurgents want to maximize disruption to elections through violence but take into account

[11] "Similarly, on the road between Qara Bagh and Istalif, an area that had been relatively free of insurgent attacks since 2001, three roadside bombs exploded in the days following the announcement of initial results in 2010. Peculiarly, it soon became clear was [sic] that these bombs were not actually meant to cause any harm, having been placed quite deep in a ravine below a bridge and detonated late at night when it was unlikely that there would be many passersby. In fact, the bombs had barely cracked the pavement on the bridge above. Instead, the bombs were making a political statement...several respondents noted that the bombs had been laid following the announcement of initial results in an area where there was strong support for Hizb-I Islami and that in the preliminary returns, candidates from the party...had not fared as well as some had predicted. While some respondents argued that the bombs had been set to target Hizb-I Islami supporters, more felt that the bombs had actually been laid by local residents who wanted to demonstrate that Hizb-I Islami supporters were still a powerful force to be reckoned with in the area. The bombs were meant to send a message to anyone in the area who assumed that the poor showing of Hizb-I Islami in the elections was an actual indication of their diminished power. In this case, the demonstration of violence was being used to compensate for or supplement the ability to mobilize votes" (Coburn and Larson, 2014, 179).

[12] "Reports from Afghan news sources indicate that Taliban forces fired rockets at a number of polling stations across the country without generating many casualties...The Taliban has always faced a challenge in attempting to undermine the elections. Its cultural sensitivity leads it to avoid killing civilians whenever possible, but disrupting elections requires attacking targets with large numbers of civilians. The violence today suggests an attempt to square the circle. Taliban forces fired rockets at polling places and into cities early in the morning when few people were around to be injured. They appear to have preferred to close roads rather than to attack polling sites or populated areas. It is important to recognize such Taliban activity for what is is: carefully calibrated use of force to induce terror among the population while minimizing civilian causalties" (Kagan 2009).

[13] "[C]ommanders must decide whether to attack locations associated with the elections, personnel associated with the process, or voters and candidates. Some eastern field commanders expressed dissent about this guidance—not because they favor elections, but because their operating ability depends upon maintaining local popular consent. Attacking civilians associated with the election by intimidating voters would, for example, undermine that consent" (Semple, 2014).

likely harm to civilians in their decision-making, we test observable implications of this logic more rigorously to offer systematic evidence consistent with our argument. We clarify these implications below.

3.3 Observable Implications

First, our argument implies that insurgents will carefully consider the timing of attacks they carry out on or immediately preceding elections.[14] In particular, we hypothesize that insurgents are likely to carry out violence intended to deter civilians from voting during hours before civilians will be directly exposed to this violence. One such tactic involves scaring voters away from the polls. Organizations like the Taliban have attempted to minimize voter turnout in elections by threatening the use of violence against participants. The Afghan Taliban claimed, for instance, that "anyone caught voting in the presidential election will have his finger—the one inked for the ballot—cut off" (Filkins, 2009). A similar tactic involves launching attacks around the time voting stations open to disrupt civilians' efforts to travel to the polls. Although insurgents aim to disrupt the electoral process through a substantial increase in violence, we anticipate that they deliberately avoid harming civilians during elections specifically.

Second, we expect insurgents to consider the selection of their targets and spatial distribution of attacks. We hypothesize that to maximize disruption of voter turnout while minimizing civilian exposure to violence, insurgents specifically will focus efforts on roads used by voters traveling to polling stations. Yet the expansion of IED deployment to these areas should only occur in the period leading up to the election, when potential voters are assessing the viability of travel and the looming threat of violence has the greatest effect on voter perceptions of personal security. In so doing, insurgents might also restrain the intensity with which they target even the most strategically important roads. While the use of IEDs may spread spatially, insurgents could minimize casualties by rarely targeting any given road multiple times. For example, if a single IED detonation is enough to credibly signal the ability of the insurgency to target a particular road, the marginal gain from repeated bombings is minimal.

[14] When describing timing, we refer to the decision to execute violence in one hour of election day versus another.

Finally, we test whether these shifts in insurgent tactics are strategically beneficial for disrupting the election in terms of violence's effect on turnout. After all, minimizing harm to civilians when using violence makes little sense if that violence is not effective in deterring voting. To overcome common inferential challenges inherent in observational studies of this kind–since the relationship between violence and voting may be endogenous or driven by spurious factors–we leverage two environmental factors as instruments that constrain the timing and type of violence insurgents can produce to isolate the effect on turnout from violence.

4 Research Design

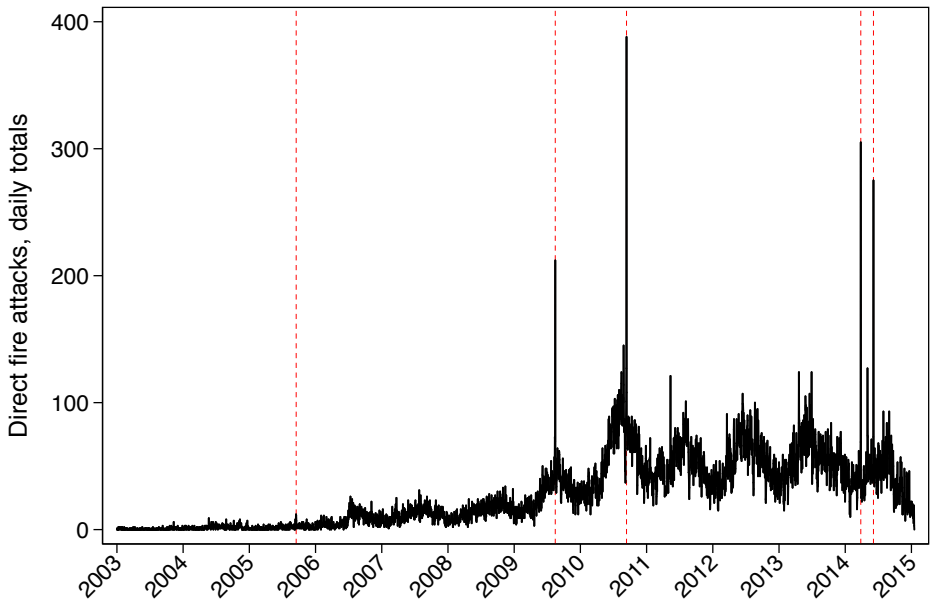
In the previous section, we provided descriptive qualitative and quantitative evidence to support the claim that the insurgents in Afghanistan increase attacks on election day. These data include statements by Taliban leadership and broad empirical patterns in the data related to timing of attacks around elections. These descriptive data demonstrate that Afghan insurgents increase their production of violence during elections, consistent with a strategy intent on undermining the authority and legitimacy of government. In this section, we turn to a description of our data and the empirical strategy we use to test our hypotheses on insurgent electoral tactics in Afghanistan.

Afghanistan provides an important case to study how insurgents impact elections. The country has undergone multiple rounds of presidential and parliamentary elections while in the throes of insurgency, allowing for testing over multiple 'cases' while holding country-level factors constant. Critically, working with others in the academic and development communities, we have obtained and developed a rich body of data on elections and on insurgent violence perpetrated on and around those days. Throughout the ongoing conflict, ISAF and Afghan security forces have tracked insurgent attacks by documenting the approximate time (often down to the minute) and precise (geo-referenced) location of attacks perpetrated against those forces or reported to them. This dataset includes more than 200,000 individual observations of insurgent attacks, each of which is identified by attack type (e.g., direct fire attack, improvised explosive device), prepared and released to the academic community by Shaver and Wright (2016).

The Taliban has undertaken three primary types of attacks throughout the war involving direct

fire, indirect fire, and improvised explosive devices (IEDs). Direct fire includes attacks perpetrated with weapons including small arms and rocket-propelled grenades. Individual insurgents (often acting in groups) carry out these attacks in a variety of ways. Indirect fire refers to attacks that include mortars and rockets. Unlike direct fire, indirect fire attacks can be launched from much greater distances. However, they tend to be far less accurate in hitting their target. Nevertheless, even when mortars and rockets fail to strike their intended target, they often create large explosions that can be heard over relatively large distances. Finally, IEDs tend to be directed against moving targets (e.g., vehicle patrol and convoys) and are typically placed on or immediately around roadways. For brevity, we use direct fire attacks to evaluate the timing of insurgent violence. All timing results also hold for indirect fire attacks. Because the spatial distribution of IEDs is critical to roadway access, we use this type of attack to study where rebel deploy violence ahead of elections.

Figure 1: Daily Direct Fire Attacks, 2005 through 2014. Dashed red lines represent election dates.



4.1 Timing of Attacks

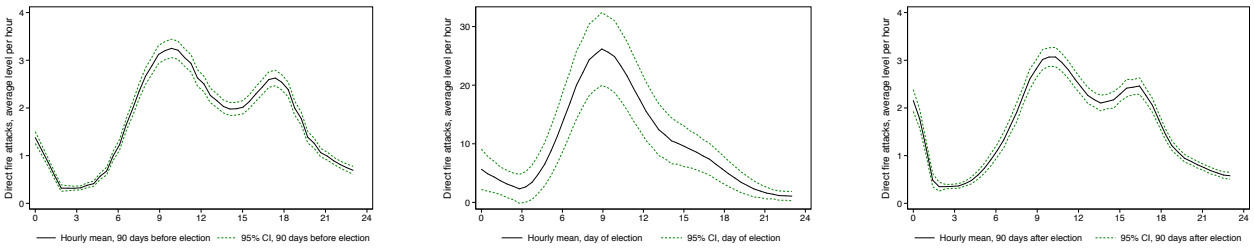
The first empirical implication of our theory involves the timing of attacks. As figure 1 demonstrates, the Taliban significantly increased the production of violence on election days. But do patterns of violence on those days reflect predictions that insurgents attempted to minimize voter turnout without harming large numbers of civilians? If so, we expect the organization to have concentrated its attacks—and direct fire, in particular—in the hours leading up to the opening of polling stations. In doing so, insurgents would generate significant levels of loud noise to cause psychological distress and discourage voting without running the risk of hitting any large group of voters gathered at polling stations.

As a preliminary investigation, we first plot a local polynomial fit of the distribution of direct fire attacks on election days by hour of the day (figure 2b). We then repeat this exercise, plotting the distribution of all insurgent attacks by hour of the day for the ninety-day period preceding (figure 2a) and succeeding those election days (figure 2c).[15] This allows us to explore visually whether the distribution of attacks on election days appear to differ from comparable days. These plots appear in figure 2. We also repeat this process for indirect fire attacks. These plots appear in figure SI-2.

Differences in these timing-of-violence distributions are stark. Direct fire and indirect fire attacks are all highly concentrated during morning hours on election days, but spread more evenly across daytime hours on non-election comparison days. As a baseline statistical assessment of these distributions, we perform a series of Kolmogorov-Smirnov tests, comparing each election day distribution of violence to the preceding and succeeding distributions of violence. Across all elections and attack types, we reject the null hypothesis that the timing of violence on election days is the same as a normal day. Conversely, across the same conditions, we fail to reject the null hypothesis

[15] Although each incident of insurgent violence in the data is time stamped, plots of the data reveal two important characteristics. First, a disproportionately large number of observations are coded as taking place at exactly 0000 hours. We suspect that a midnight designation was given to incidents for which an actual event time was not reported. Thus, we drop all incidents of insurgent attacks reported as taking place at exactly 0000 hours. (We retain, however, all observations reported as taking place at any other time on that hour (e.g., 0024).) Second, the plots show that although attack times were often recorded down to the minute (e.g., 1234 hours), they are skewed toward natural rounding numbers—thus, for instance, there tend to be more listed on the 45th minute of an hour (e.g., 1245) than on, say, the 43rd minute (e.g., 1243). Because we are concerned with attacks at the hour level, we round all attacks for a given hour to the hour within which they fall.

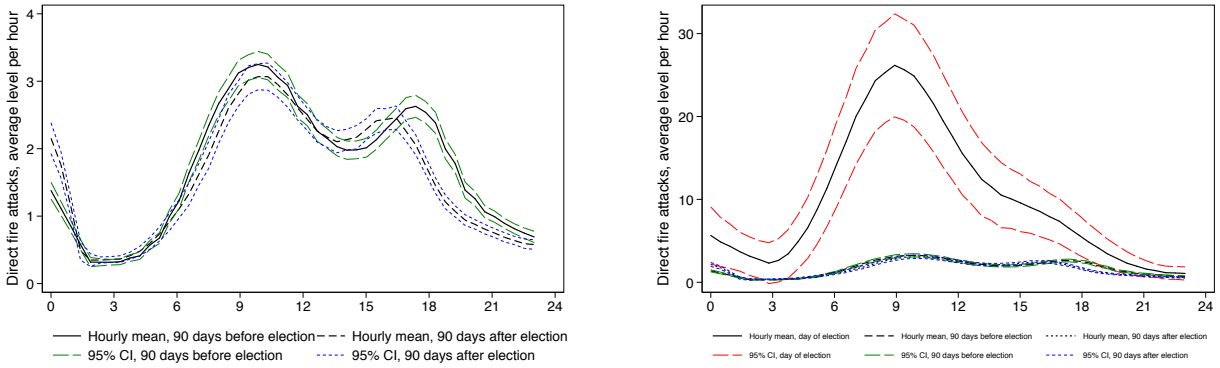
Figure 2: Direct fire attacks, by hour of day, before, on, and after election days



(a) 90 days before election (b) Election day (c) 90 days after election

that the timing of pre- and post-election violence are identical. We provide visual evidence of these differences in figure 3. On the left panel (figure 3a), the temporal trends in violence 90 days before and 90 days after Afghan elections are nearly indistinguishable. However, the right panel (figure 3b) plots election day violence against the 90 days before and after. It is clear that violence is orders of magnitude greater during voting periods than normal, and concentrated earlier in the day.

Figure 3: Comparing trends in indirect fire attacks, by hour of day



(a) 90 days before vs. 90 days after election (b) Pre/post trends with Election Day

Next, to formally examine whether the Taliban carried out relatively more early morning attacks (and relatively fewer afternoon attacks) on election days compared to other days, we test three estimating equations, jointly expressed as follows:

$$A_{d_i} = \zeta + \sum_{i=1}^{24}(\vartheta_i Hour_{d_i}) + \sum_{i=1}^{24}(\alpha_i Hour_{d_i} * Election) + \xi_d + \varepsilon_{d_i} \quad (1)$$

where A denotes number of insurgent attacks (direct fire in the main analysis, indirect fire in supporting information) and $Hour$ and $Election$ are indicator variables for the hour of the day and election day. d denotes the day and i notes the hour of day $\{q, ..., r\}$. Finally, a time fixed effect is given by ξ_d. We calculate results with both month and, separately, week fixed effects. The omitted base hour is 1300 hours local time.

These models are estimated over a 90 day counterfactual period (before each election, $n = 10,416$). We then replicate these tests at both the province and district levels.[16]

4.2 Spatial Distribution of Attacks

The second empirical implication of our theory suggests that insurgents should adjust tactics regarding the spatial allocation of IEDs ahead of elections. We are especially interested in identifying variation in the the use of IEDs along Afghanistan's road network and whether it reflects strategies to disrupt the process, while minimizing loss of life.

We use the most comprehensive road network data currently available, which maps all paved roads in Afghanistan R composed of intersections N and roadways E (so, $R = (N, E)$). Voters attempt to travel from their villages (figure SI-6) to publicly announced polling stations (figure SI-7) where they vote. This polling station map was released in February 2014. The village centroids and polling stations are drawn from administrative data for the 2014 election. Each voter attempts to minimize the cost of travel. For simplicity, let each roadway $e \in E$ have a cost function determined by the length (l_e) of the road, so the expense of traveling along a given road is equal to $c_e(l_e)$.

If traversing $n \in N$ is costless, then the total cost of a potential election day route p is $V(p) =$

[16]For the national and provincial level results, we relax the counterfactual period to include all days. Results are highly consistent and available upon request.

$\sum_{e \in p} c_e(l_e)$. We assume movement through intersections is costless to avoid imposing additional assumptions on this optimization exercise. Let $P_{v,s}$ denote the set of all possible routes between connected villages v and polling stations s. Voters optimize routes such that:

$$\min_{p \in P_{v,s}} V(p). \tag{2}$$

The resulting routes are plotted in figure 4.[17] We use a similar spatial model to calculate the intensity of non-election day traffic. To identify high traffic roads, we map the routes linking Afghanistan's one hundred largest population centers to the national capital in Kabul. We use these details to decompose our empirical results below. We then snap deployed IEDs to the road network (figure SI-8) and generate road specific, time-varying, measures of IED exposure.

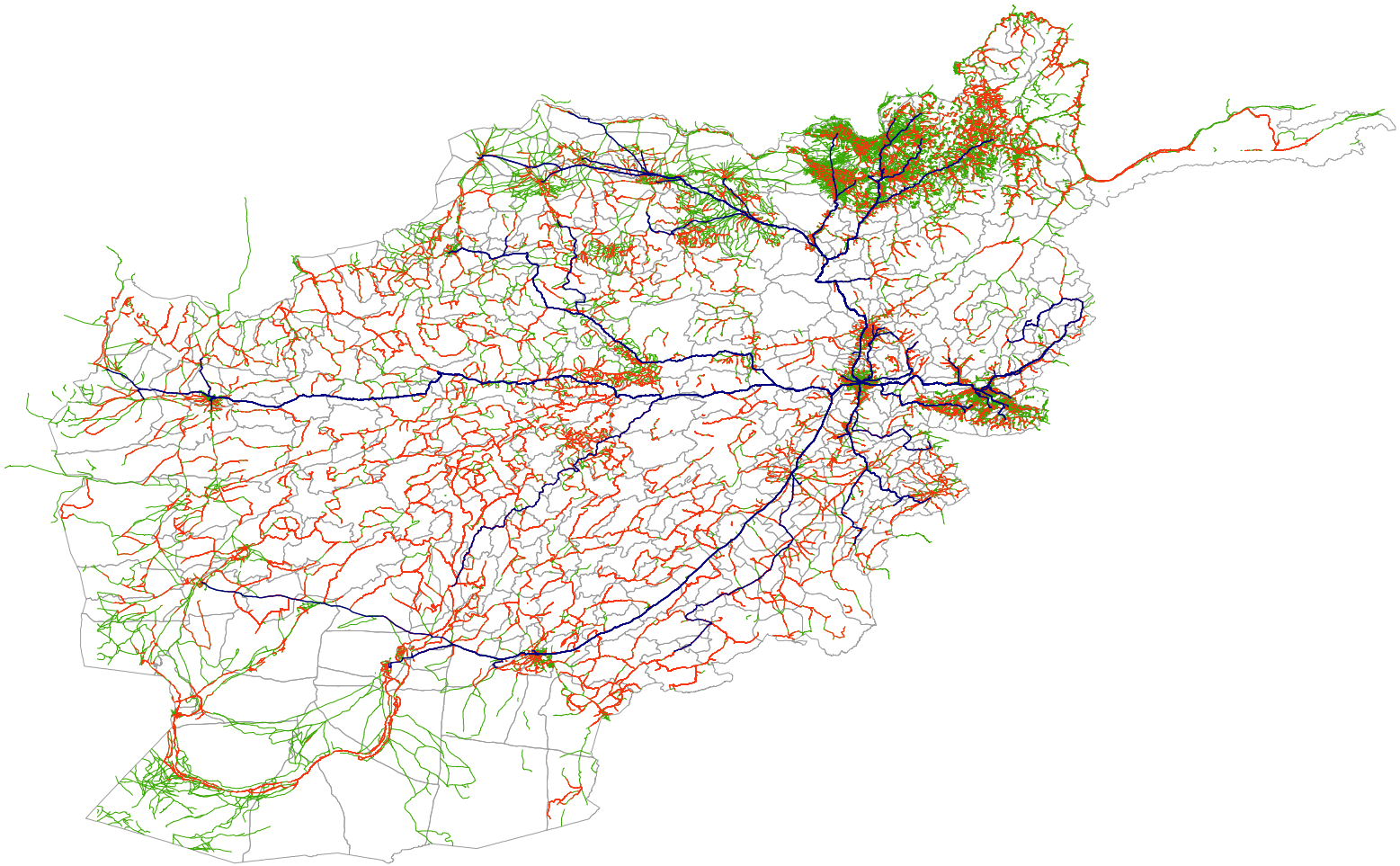
We estimate the following linear probability model:

$$Y_r = \alpha + (Route_r)\beta_1 + (Length_r)\beta_2 + (Violence_{r,w})\beta_3 + X_r\beta_4 + \epsilon_r, \tag{3}$$

where r indicates road specific measure. In the primary analysis, Y_r is a binary indicator of IED deployment along a given road in the month preceding the election. $Route_r$ is an indicator of whether a road falls along at least one election day traffic route. $Length_r$ measures the length of each road segment, which, in expectation, should covary positively with probability of deployment. $Violence_{r,w}$ is a road-specific violence trend, with time window w. In the main analysis, we set w to six months and confirm robustness to a range of possible w values. Throughout the analysis, X_r will capture a basket of covariates relevant to the analysis. In particular, we examine intensity of road use, ethnic population connected by each road, an indicator variable of high traffic intensity *independent of the election*, and administrative fixed effects. We present heteroskedasticity consistent standard errors used to address concerns regarding spatial clustering of insurgent activity.

[17] We follow similar methods as Dell (2015) and Wright (2016).

Figure 4: Equilibrium traffic routes, in red, and high flow traffic areas, in blue, compared to irrelevant road segments, in green.



4.3 The Impact of Violence on Voting

We estimate the impact of the timing and spatial distribution of violence on voting. Although pre-election and election day violence pose a physical threat to voters, it remains unclear if attacks actually deter voting and effectively undermine the process. Insurgents may time and deploy their violence to maximize disruption while minimizing harm to civilians, but are also responding strategically to factors we may not know and cannot incorporate in our models. To identify the impact of violence on voting, we need a source of plausibly exogenous variation in the timing and spatial distribution of attacks. Our strategy is to leverage two environmental constraints on insurgent and counterinsurgent operations: surface wind speeds and nighttime cloud cover.

In Afghanistan, strong ground winds cause dusty conditions and reduce visibility (Carter and Veale, 2013), which has been shown to affect combat decisions in other conflicts (Winters et al., 2001). Low visibility conditions create opportunities for direct fire attacks, where insurgents can avoid immediate detection of their position while engaging security forces. Coalition and local national forces are also trained not to return fire when they cannot clearly distinguish potential attackers from civilians. This situation is likely compounded on election days, when civilians are more active than usual. To estimate the impact of early morning violence on turnout, we gather district voting returns from the first and second round of the 2014 election. Combined with district population figures, we calculate turnout for both rounds. We also assemble district-level wind speed data on each of the election days at three times: 0430, 1030, and 1630 hours. The baseline climate reanalysis was prepared by The National Centers for Environmental Prediction (NCEP) and Department of Energy using state-of-the-art assimilation techniques (Saha et al., 2010). These data are derived from reanalysis (climate modeling) of underlying meteorological data. Our first measure, which we use as an instrument, is measured hours before polling stations open. However, because windy conditions may be correlated across the day, and dust plumes might reduce turnout, we include the latter two measures in all models as control variables. When studying the timing of direct fire attacks on election days, we estimate the following model:

$$Y_{d,e} = \alpha + (\widehat{Attacks}_{d,e,t})\beta_1 + X_{d,e}\beta_2 + \epsilon_{d,e}. \tag{4}$$

where the point estimate on $(\widehat{Attacks_{d,e,t}})$ is the quantity of interest, with t indicating the time window used to calculate early to late morning attacks. In the main analysis, we set t to the range 0500 to 1100 hours. We confirm our results are robust to all pre-afternoon values of t. We measure turnout, $Y_{d,e}$, by district d and election round e. Our covariates $X_{d,e}$ usually include election fixed effects, voting hour wind speeds, population, and several models incorporate three election day measures of precipitation and ambient temperature as included instruments.

We use nighttime cloud cover as an instrument for the distribution of IEDs ahead of the 2014 election. We extract this data from NCEP raster files (Saha et al., 2010). Although IEDs may be deployed at any hour, conducting deployment operations at night reduces the probability of immediate detection by civilians and security forces. The intensity of nighttime cloud cover also affects the ability of counterinsurgents to directly observe rebel activity using various remote surveillance tools. To estimate the impact of pre-election IED deployment on voting, we collect voting records on all operational polling stations during the first round of the 2014 election. We then extract a measure of nighttime cloud cover—the percentage of nights in March 2014 with dense coverage—at the road segment level. The cloud cover data is gridded and we cluster our standard errors accordingly. Because cloud cover may be correlated with rainfall, and flooding could have a persistent effect on voting, we control for a road-specific measure of precipitation during the pre-election period. To assess the consequences of pre-election IED deployment, we estimate the following model:

$$Y_r = \alpha + (\widehat{IED_r})\beta_1 + (Length_r)\beta_2 + (Violence_{r,w})\beta_3 + X_r\beta_4 + \epsilon_r. \tag{5}$$

where the point estimate on $(\widehat{IED_r})$ is the quantity of interest, indicating whether a road has been targeted during the pre-election period. We measure vote totals, Y_r, by road r, summing the ballots cast during the first round at all stations connected by a given road. This allows us to estimate the total number of votes not cast because of IED deployment along a given road. Our covariates X_r usually include district fixed effects, population, and several models incorporate road-specific measures of pre-election precipitation as an included instrument.

5 Main Results

5.1 Timing of Attacks

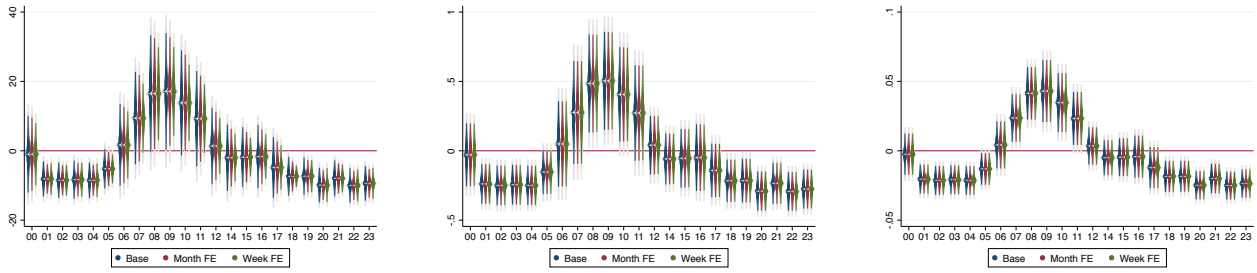
We carry out the analysis in several stages. For purposes of interpretation, we select 1300 hours as the base (omitted) hour for all regression specifications. We begin by regressing each hour of the day on attack numbers. These results indicate that, in general, insurgents tend to carry out greater numbers of attacks during the morning hours between 0600 and 1200 hours. All other hours of the day tend to experience fewer attacks than the base hour. Next, we add the election day indicator to the model. As expected, this variable is positive and significant indicating that elections tend to be more violent than other days of the conflict.

The main quantities of interest are the election day interaction terms. These indicate whether specific hours on election day are more violent. To ease interpretation of the 207 point estimates of interest, we plot these coefficient estimates for direct fire attacks in figure 5 and introduce results for indirect fire attacks in figure SI-4. For comparison at the national, province, and district levels, we focus on models using the ninety-day window.[18] We observe a general and highly robust pattern: although morning hours tend to be the most violent for the average conflict day, on election days the period between 0700 and 1000 hours are especially violent. These results are remarkably persistent when we incorporate month and, separately, week fixed effects. On election days, the Taliban significantly increased the number of attacks it carried out during this morning period, consistent with expectations.

If the insurgent's optimization problem binds, we anticipate that the Taliban will maximize election disruption while minimizing civilian casualties. Our results suggest that the hour-of-election day timing of attacks yields evidence of restraint: the substantial increase in violence during the early morning hours of election day mirrors a decline in violence, of all types, by an order of magnitude after 10 AM. To achieve electoral disruption without respect for harm to civilians, insurgents would maintain a high level of violence throughout the day of voting. But insurgents produce a

[18] Models leveraging all data are restricted (for computational reasons) to the national and province levels. These results are highly consistent and available upon request.

Figure 5: Violence by hour, election day vs. non-election day using ninety-day window (national, province, district). 95% confidence intervals reported using robust standard errors.



(a) National (b) Province (c) District

tremendous amount of violence *before* polls open and voting has started to credibly signal their ability to wield a battery of violence through the early morning, without the collateral damage of attacks during voting hours.

Beyond minimizing damage to civilians, the specific timing of election-day attacks we observe could be consistent with a few other insurgent strategies, which we address. First, the early hours of the day could reflect times when insurgents more easily coordinate activities, or attacks are more likely to be successful, regardless of their effects on civilians. For this to be true, we should observe a concentration of attacks in the early morning across all days, not just election days. However, our results demonstrate that the concentration of the timing of attacks in the morning is unique to election day.

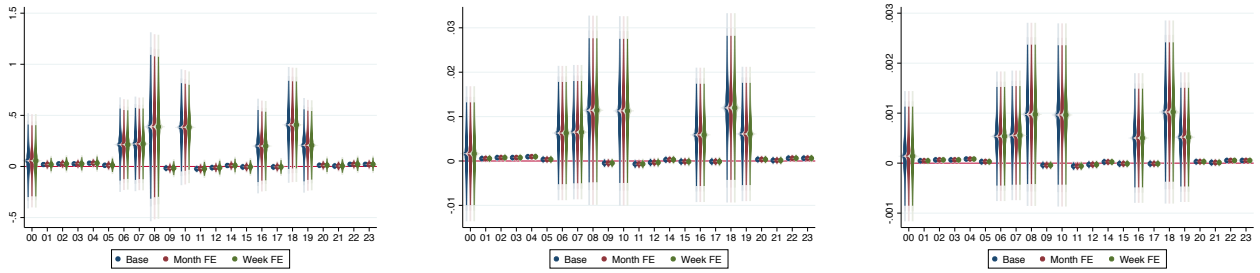
Second, the Afghan government and ISAF could differentially alter their force deployments on election day in the early morning, and insurgents could respond because changes in deployments could offer differential levels or quality of targets if, for instance, the election morning meant that more patrols were out and created more targets. However, we note that whereas force deployments did change to provide protection for the electoral process and voters, the deployments and lay-down of forces was enacted two days before the election, and would have been in place from then through election day and the conclusion of voting and counting at polling centers (Condra et al., 2016).[19] Therefore, changes in deployments cannot account for the specific timing of attacks on election

[19]Author [Long] was an accredited election observer in 2009, 2010, and the 2014 vote audit, and was privy to briefings by Afghan, ISAF, and IEC officials who relayed this deployment strategy. Further details can be found in Condra et al. (2016).

day. Moreover, we note that deployments for the election mandated significantly *fewer* patrols by ISAF forces (to reduce the likelihood of attacks against convoys),[20] and placed Afghan forces in concentric rings around polling centers, but not directly adjacent to polling centers (NDI, 2011, 16-17). Therefore, the timing of attacks on election day does not correspond to a strategy that would help insurgents find more Afghan security or ISAF targets, and if anything, would provide fewer opportunities near polling centers.

In figure 6c, we repeat our time-of-day analysis and replace our outcome of interest with direct fire attacks that cause civilian casualties. Notice that the levels of civilian causalities caused by insurgent attacks on election days does not significantly increase during the hours when insurgents carry out the majority of their attacks. In absolute terms, harm to civilians is either decreasing (0900) or remaining the same as the preelection period. In relative terms, given the substantial increase in direct fire intensity on election days, these results indicate a substantial decline in harm to civilians during voting periods. We demonstrate the same result for indirect fire attacks in figure SI-5c. This serves as remarkable systematic quantitative evidence of the Taliban's efforts to strategically avoid harm to civilians even as they dramatically increased production of violence on election day, and it accords with qualitative evidence presented above that the organization recognized this as a binding constraint on their ability to disrupt elections.

Figure 6: Civilian killings by hour, election day vs. non-election day using ninety-day window (national, province, district). 95% confidence intervals reported using robust standard errors.



(a) National (b) Province (c) District

[20]Indeed, in later elections, ISAF was to respond to election day threats only *"in extremis"*, with the Afghan National Army and Police taking primary responsibility for maintaining security (NDI, 2011, 17).

5.2 Spatial Distribution of Attacks

We next estimate how insurgent deployment of IEDs changed ahead of the 2014 election to disrupt the process. We utilize data from this election because we have comprehensive data on the location of polling stations across the country, and the government initiated a moratorium on coverage of insurgent activity ahead of the election. This moratorium created an information problem for insurgents attempting to disrupt voter turnout on the day of the first round of elections: absent journalistic coverage, civilians and potential voters would not be able to anticipate whether or not a stretch of road is dangerous. We leverage this uncertainty by expanding the "pre-election" period to include March through April 4, 2014. We study IED deployment along the road network to detect if insurgents were strategic in the allocation of their fighting effort. As discussed above, we identify traffic equilibria—paths along the road network—that link voters with the closest polling station available for their use.[21] This involves mapping population centers, identifying polling stations, and linking these objects to a comprehensive network of Afghanistan's roads. We also perform a population-weighted calculation of traffic intensity along the road network that enables us to identify which roads are subject to high traffic flows across time, independent of election day. This process allows us to distinguish which elements of the road network experience high traffic flow regardless of the election, those roads with heightened traffic only on election day, and those elements of the network that are largely irrelevant.

Our main analysis, presented in Panel A of table 1, illustrates how IED deployment shifted across the road network that connected potential voters to polling stations, compared to roads that experienced limited traffic on election day. Importantly, the outcome of interest is not the intensity of road disruption on the day of the election. Instead, we examine how insurgents deployed IEDs during the period immediately preceding the election. In column (1), we find that roads used by an election day route experienced a significant uptick in violence during March and early April 2014, compared to less relevant roads. Because Taliban subunits are traditionally restricted in their mobility, we introduce a district fixed effect in column (2) of Panel A. This is our preferred

[21] Afghans register to vote by province and are able to vote anywhere within that province; therefore, they are not subject to registration that only allows voting at a particular station.

specification, and confirms that IED deployment within and across districts follows a consistent pattern.

In column (3), we show results from a falsification test, leveraged from the fact that the map of polling station locations was released in February 2014. If it is true that the reason insurgents targeted these particular roads with IEDs was because these roads connected villagers to polling stations and not because of some other (unobserved) feature of the roads, then before these roads were revealed to have this connective feature, insurgents should not have bothered targeting them any more than other roads. That is, IED deployment in January 2014 should be unrelated to election day routes. This is, indeed, exactly what we find, and this null result serves as an additional piece of evidence to buttress the causal nature of our argument (Condra and Shapiro, 2012; Draca et al., 2011; Sexton, forthcoming; Shapiro and Weidmann, 2015).

Next, we investigate a possible measure of insurgent restraint—not targeting roads multiple times—in column (4). Here we substitute a measure of deployment intensity for the primary outcome variable. Our results indicate that roads used by election day routes were no more likely than other roads to be bombed multiple times.

In columns (5) and (6) of Panel A we introduce substantial evidence that the targeting of election day traffic was disproportionately focused on deterring Pashto-speaking voters (primarily from the Pashtun ethnic group) from turning out.[22] To assess this effect, we trace routes back to their village origins and calculate ethnic populations for each connected village, allowing us to assign a population flow to each element of the network. A road along multiple routes, for example, may connect two villages—one Pashtun and another Uzbek. A different road may connect a dozen villages to their polling station, all with varying ethnic populations. These measures allow us to identify whether the magnitude of traffic matters, as well as the ethnicity of that traffic. Naturally, these figures can only be identified for roads that actually connect villages to stations, so our sample and counterfactual, varies from columns (1) through (4). Rather than comparing strategic and largely irrelevant roads, columns (5) and (6) unpack variation within strategic roads to see which populations are exposed to disproportionate insurgent violence. Notice that relative to all

[22]Due to outliers, we restrict this analysis to the 99th percentile and below.

other ethnicities, Pashto speakers are the most at risk of disenfranchisement through limited access to stations. This result holds with and without conditioning on the total population connected by a given road (columns (6) and (5), respectively).

In Panel B, we introduce several robustness checks. In columns (1) through (3), we substitute the six month road-specific violence trend for three, four, and five month trends. Column (4) limits our sample to districts that experienced pre-election IED deployment, while column (5) excludes high traffic corridors from the main analysis. Column (6) combines these two conditions. The restriction imposed in column (4) seems natural: we want to estimate the distribution of violence within areas with positive levels of violence. This becomes the preferred specification in our instrumental variable estimation below. We omit high traffic roads in column (5) because these are strategically valuable targets independent of the election. Across all these specifications, the main result remains unchanged.

These findings on targets and the spatial distribution of attacks advance our understanding of the constraints that bind the tactical choices of insurgents. All told, these results give us confidence that insurgents were strategic in their use of IEDs to thwart the 2014 election. Our findings yield strong evidence that certain ethnic groups- —Pashtun voters, in particular—reside in areas that were disproportionately targeted by insurgents hoping to spoil turnout, even while minimizing loss of life. This finding in particular coheres with our argument that the Taliban faced an important dilemma in using violence to affect the electoral process while avoiding harm to civilians. The Taliban's ability to do this in Pashtun areas may reflect areas where they have greater control, but also reflect a strategy to undermine the legitimacy of the government by stopping voting in the places and among the population most likely to support the Taliban in its challenge against the government.

Table 1: IED deployment along the Afghan road network ahead of 2014 election

Panel A: IED deployment along election day routes

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome	Deployment	Deployment	Placebo	Count	Deployment	Deployment
Election day route	0.00446***	0.00370*	0.00284	-0.0000215		
	(0.00112)	(0.00184)	(0.00215)	(0.00330)		
Pashtun pop. (10k)					0.00977*	0.0107**
					(0.00387)	(0.00392)
District FE	No	Yes	Yes	Yes	Yes	Yes
Road length	Yes	Yes	Yes	Yes	Yes	Yes
Violence trend	6M	6M	6M	6M	6M	6M
N	72876	72698	72698	72698	17100	17100
Clusters		393	393	393	388	388
R^2	0.0999	0.0626	0.0494	0.195	0.0940	0.0946

Panel B: Robustness checks

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome	Deployment	Deployment	Deployment	Deployment	Deployment	Deployment
Election day route	0.00437*	0.00412*	0.00385*	0.00615$^{\gamma}$	0.00336$^{\gamma}$	0.00581$^{\gamma}$
	(0.00187)	(0.00187)	(0.00185)	(0.00338)	(0.00180)	(0.00334)
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Road length	Yes	Yes	Yes	Yes	Yes	Yes
Violence trend	3M	4M	5M	6M	6M	6M
Violent districts	Mixed	Mixed	Mixed	Yes	Mixed	Yes
High traffic roads	Mixed	Mixed	Mixed	Mixed	Exclude	Exclude
N	72698	72698	72698	44011	70878	43019
Clusters	393	393	393	132	387	131
R^2	0.0484	0.0538	0.0606	0.0722	0.0516	0.0578

Dependent Variables: deployment of IED (binary) on road during the preelection period (March 1 until April 4, 2014). The placebo condition is the same measure, but evaluated during January 2014 (before the polling station map was made public). Column 5 of Panel A measures the intensity of deployment during the preelection period (count).

- High traffic roads connect Afghanistan's top 100 population centers to the national capital Kabul.
- Ethnic populations are averaged for each village serviced by a given road.
- Column 6 of Panel A includes an omitted population-on-road control.
- Clustered standard errors (by district) in parentheses. Column 1 reports robust standard errors.

$^{\gamma}$ $p < .1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5.3 The Impact of Violence on Voting

Next, we evaluate how the timing and spatial distribution of insurgent violence in Afghanistan has influenced election participation. We begin with an investigation of early morning violence and conclude by studying IED deployment during the pre-election period. To isolate the causal effect of violence on voting, we need a source of plausibly exogenous variation in the timing and distribution of attacks. We leverage two environmental constraints on insurgent and counterinsurgent operations: surface wind conditions and nighttime cloud cover. We begin by evaluating the identifying assumptions of our estimation strategy, and then present results.

The identifying assumption of our first set of causal estimates is that early morning wind conditions strongly influence where, when, and how much violence insurgents produce on election day and only influences voting through the violence channel. In table 2, Panel C, we present evidence that surface winds at 0430 and direct fire attacks from 0500 through 1100 are strongly and positively correlated. As we anticipated, windy conditions—associated with low visibility—create opportunities for insurgent violence. The reported Kleibergen-Paap F statistics are above the standard threshold of 10, with one exception (9.871). The reduced form results presented in Panel B offer consistent evidence of a negative relationship between early morning wind speeds and turnout. To address concerns regarding the exclusion restriction, all models include measures of surface wind speeds during voting hours. In columns (5) and (6) we include rainfall as an additional included instrument (Gomez et al., 2007). This allows us to address any correlation between windy conditions and precipitation. In column (6) we also incorporate district-specific measures of temperature at three times during election day (Anderson, 1987; Anderson et al., 2000). Perhaps the most compelling evidence of the exclusion restriction is that the primary reduced form result among districts that experienced no violence on either election day in 2014 is statistically indistinguishable from zero. These estimates are reported in table 4 below. That is, surface winds had no impact on turnout in districts where insurgents are not operational.

We now turn our attention to Panel A of table 2. The OLS estimate of the impact of early morning violence on voting is statistically significant and negative, but relatively weak. This result indicates that each early morning attack reduces district turnout by roughly 2%. The 2SLS

estimates in columns (1) through (6) indicate that the true impact is nearly five times greater. In column (1), we compare turnout across all districts during the two rounds of the 2014 election. In column (2) we employ a similar design, but drop the election fixed effect in favor of clustering our standard errors by election. If insurgents were highly mobile and capable of substituting violence in one region with another, this specification might correct for dependence within election rather than across districts. In both specifications, our point estimate indicates that each direct fire attack between 0500 and 1100 reduces turnout by more than 11%.

Our qualitative research indicates that Taliban subunit decisions are made and executed at or below the district level (Giustozzi and Isaqzadeh, 2012). In columns (3) through (6) we focus solely on districts where insurgents carried out at least one attack during either of the two voting rounds; just over half of Afghanistan's 398 districts. Column (4) clusters standard errors by district, while columns (5) and (6) add rainfall and temperature as controls. Across these models, our point estimates are consistent: each additional attack reduces turnout by roughly 10%.

Our choice to instrument direct fire attacks from 0500 to 1100 was motivated by the regression results plotted in figure 5. In table 3, we confirm that our findings are not an artifact of this classification. In columns (1) through (6) we vary the upper window from 0700 to 1200 hours. The results indicate that our main analysis may underestimate the true effect of early morning violence on turnout. If, for example, we evaluated violence from 0500 to 0700, our point estimate is 50% larger. These results give us confidence that each additional attack before or immediately after polls open reduces district turnout by roughly 10%.

Table 2: Impact of early morning attacks on voter turnout

Panel A: Impact of morning attacks on voting

		(1)	(2)	(3)	(4)	(5)	(6)
	OLS	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
Outcome	Turnout	Turnout	Turnout	Turnout	Turnout	Turnout	Turnout
Attacks, 5-11AM	-0.0219***	-0.144$^{\gamma}$	-0.112***	-0.100*	-0.100*	-0.0987*	-0.0981*
	(0.00558)	(0.0835)	(0.0267)	(0.0429)	(0.0508)	(0.0473)	(0.0450)
Election FE	Yes	Yes	No	Yes	Yes	Yes	Yes
Election clusters	No	No	Yes	No	No	No	No
District clusters	No	No	No	No	Yes	Yes	Yes
Violent districts	Mixed	Mixed	Mixed	Yes	Yes	Yes	Yes
Surface winds		Yes	Yes	Yes	Yes	Yes	Yes
Rainfall		No	No	No	No	Yes	Yes
Temperature		No	No	No	No	No	Yes
N	786	786	786	410	410	410	410
Clusters			2		205	205	205

Panel B: Reduced form results

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome	Turnout	Turnout	Turnout	Turnout	Turnout	Turnout
Surface winds, 430 AM	-0.0175$^{\gamma}$	-0.0137$^{\gamma}$	-0.0194**	-0.0194**	-0.0196**	-0.0196**
	(0.00936)	(0.00212)	(0.00648)	(0.00740)	(0.00742)	(0.00724)
Election FE	Yes	No	Yes	Yes	Yes	Yes
Election clusters	No	Yes	No	No	No	No
District clusters	No	No	No	Yes	Yes	Yes
Violent districts	Mixed	Mixed	Yes	Yes	Yes	Yes
Surface winds	Yes	Yes	Yes	Yes	Yes	Yes
Rainfall	No	No	No	No	Yes	Yes
Temperature	No	No	No	No	No	Yes
R^2	0.0350	0.0113	0.0757	0.0757	0.0784	0.0983

Panel C: First stage results

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome	Attacks, 5-11AM	Att.	Att.	Att.	Att.	Att.
Surface winds, 430 AM	0.122***	0.122	0.193***	0.193**	0.199***	0.200***
	(0.0305)	(0.0223)	(0.0507)	(0.0615)	(0.0568)	(0.0564)
Election FE	Yes	No	Yes	Yes	Yes	Yes
Election clusters	No	Yes	No	No	No	No
District clusters	No	No	No	Yes	Yes	Yes
Violent districts	Mixed	Mixed	Yes	Yes	Yes	Yes
Surface winds	Yes	Yes	Yes	Yes	Yes	Yes
Rainfall	No	No	No	No	Yes	Yes
Temperature	No	No	No	No	No	Yes
KP F statistic	16.02	29.93	14.51	9.871	12.22	12.59
R^2	0.0317	0.0317	0.0603	0.0603	0.108	0.114

Dependent Variables: voter turnout at the district level during the two rounds of voting in the 2014 election.
- All columns include an omitted district population control.
- All 2SLS models include controls for surface winds during voting hours (1030 AM and 430 PM). Models with rainfall and temperature controls track conditions at 430 AM, 1030 AM, and 430 PM.
- Clustering of standard errors is noted for each column. To cluster by election, column 2 omits the election fixed effect (since there are only two rounds of voting).
$^{\gamma}$ $p < .1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Evaluating impact of attacks across varying times on voter turnout

	(1)	(2)	(3)	(4)	(5)	(6)
	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
Outcome	Turnout	Turnout	Turnout	Turnout	Turnout	Turnout
Attacks, varying windows	-0.156*	-0.130*	-0.116*	-0.106*	-0.0981*	-0.0914*
	(0.0765)	(0.0629)	(0.0552)	(0.0495)	(0.0450)	(0.0413)
Time window	5-7AM	5-8AM	5-9AM	5-10AM	5-11AM	5-12PM
Election FE	Yes	Yes	Yes	Yes	Yes	Yes
District clusters	Yes	Yes	Yes	Yes	Yes	Yes
Violent districts	Yes	Yes	Yes	Yes	Yes	Yes
Surface winds	Yes	Yes	Yes	Yes	Yes	Yes
Rainfall	Yes	Yes	Yes	Yes	Yes	Yes
Temperature	Yes	Yes	Yes	Yes	Yes	Yes
N	410	410	410	410	410	410
Clusters	205	205	205	205	205	205
KP F statistic	9.734	10.13	10.70	11.73	12.59	13.97

Dependent Variables: voter turnout at the district level during the two rounds of voting in the 2014 election.
- All columns include an omitted district population control.
- All models include controls for surface winds during voting hours (1030 AM and 430 PM) as well as rainfall and temperature controls evaluated at 430 AM, 1030 AM, and 430 PM.
- Standard errors are clustered by district.
$^{\gamma}$ $p < .1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Impact of windspeed and cloud cover on turnout in nonviolent areas

Placebo reduced form results		
	(1)	(2)
	District turnout	Total votes
	IV: Windspeed, 0430	IV: Cloud cover
Impact of	-.015	-10.74
Instrument	(.018)	(7.18)
R^2	0.043	0.075

Dependent Variables: Column 1 reports voter turnout at the district level during the two rounds of voting in the 2014 election. Column 2 reports total votes cast at polling center(s) connected by road, winsorized at the 99th percentile.
- Models follow the relevant main specification. In Column 1, see Model 3 in table 2. In Column 2, see Model 2 in table 5.
$^{\gamma}$ $p < .1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

We next turn our attention to how IED deployment during the pre-election period influences voter participation. To isolate random variation in IED deployment, we leverage plausibly exogenous differences in the intensity of nighttime cloud cover in the month ahead of the April round of voting. Panel C of table 5 yields some evidence of a positive and inconsistently significant relationship between cloud cover and IED deployment. Although the coefficients do not meet standard thresholds for statistical significance, standard errors are still relatively small. Additional evidence of the relevance of cloud cover for IED deployment can be found in the Kleibergen-Paap F statistics, all of which are above 7.5. The least strong first stage result is presented in column (3), where we exclude high traffic roads from our sample. Importantly, in the just identified case (an equal number of instruments and endogenous variables), the 2SLS is median unbiased even when the F statistic is below the conventional level of 10.

Our reduced form results, in Panel C, are consistently negative and significant, indicating that nighttime cloud cover during the month ahead of the election is somehow related to voter participation. Although there is no evidence of a direct effect on turnout, we incorporate rainfall as an included instrument in column (4). In this specification, our first stage and reduced form results are strengthened, giving us more confidence in the validity of our instrument. Additionally, we find little evidence of the reduced form relationship among roads in districts that experienced no preelection violence. These estimates are reported in table 4 above.

We conclude by discussing Panel A, our main effects. Due to concern over a small number of outlying observations, we winsorize our vote totals at the 99th percentile. The OLS estimates indicate a small but positive relationship between IED deployment and vote totals. One could interpret pre-election violence as triggering voter participation. We caution against this interpretation since our 2SLS estimates are consistently negative, significant, and substantial. In column (1), across all districts, our estimate indicates that IED deployment in the month ahead of the election reduced the vote total of linked polling stations by more than 15,000 ballots. In columns (2) through (6), we limit our sample to districts with at least one targeted road. Among this sample, our estimate ranges from roughly 7,700 to 8,800 fewer votes cast at affected polling stations. This effect is equivalent to each roadside bomb shutting down eight polling stations. Yet not all candidates were

equally affected by violence. Ashraf Ghani, the eventual winner of the second round, lost nearly 4,000 votes per targeted road while Abdullah Abdullah, the vote leader after the first round, lost just over 1,600 votes per incident.

These results combined yield compelling evidence that insurgent violence ahead of and during the 2014 election substantially impacted turnout, voter participation, and may have undermined support for the eventual president during early voting.

Table 5: Impact of IED deployment along the Afghan election day routes on voting

Panel A: Impact of IED deployment on voting

		(1)	(2)	(3)	(4)	(5)	(6)
	OLS	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS
Outcome	Total votes	Total votes	Total votes	Total votes	Total votes	Ghani	Abdullah
IED deployment	372.5***	-15346.3**	-7754.3*	-8813.8*	-7697.6**	-3864.4**	-1638.2$^{\gamma}$
	(89.36)	(5564.9)	(3087.0)	(3916.5)	(2824.6)	(1412.9)	(968.8)
District FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Road length	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Violence trend	6M	6M	6M	6M	6M	6M	6M
Violent districts	Mixed	Mixed	Yes	Yes	Yes	Yes	Yes
High traffic roads	Mixed	Mixed	Mixed	Exclude	Mixed	Mixed	Mixed
Rainfall	No	No	No	No	Yes	No	No
N	16100	16154	7462	7008	7462	7462	7462
Clusters	380	370	128	125	128	128	128

Panel B: Reduced form results

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome	Total votes	Total votes	Total votes	Total votes	Ghani	Abdullah
Nighttime cloud cover	-14.16*	-19.84*	-19.59*	-21.34**	-9.886***	-4.191
	(5.715)	(8.128)	(8.699)	(8.088)	(2.838)	(3.853)
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Road length	Yes	Yes	Yes	Yes	Yes	Yes
Violence trend	6M	6M	6M	6M	6M	6M
Violent districts	Mixed	Yes	Yes	Yes	Yes	Yes
High traffic roads	Mixed	Mixed	Exclude	Mixed	Mixed	Mixed
Rainfall	No	No	No	Yes	No	No
R^2	0.111	0.0720	0.0400	0.0728	0.0414	0.0343

Panel C: First stage results

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome	Deployment	Deploy.	Deploy.	Deploy.	Deploy.	Deploy.
Nighttime cloud cover	0.000959$^{\gamma}$	0.00256	0.00222	0.00277$^{\gamma}$	0.00256	0.00256
	(0.000556)	(0.00157)	(0.00157)	(0.00158)	(0.00157)	(0.00157)
District FE	Yes	Yes	Yes	Yes	Yes	Yes
Road length	Yes	Yes	Yes	Yes	Yes	Yes
Violence trend	6M	6M	6M	6M	6M	6M
Violent districts	Mixed	Yes	Yes	Yes	Yes	Yes
High traffic roads	Mixed	Mixed	Exclude	Mixed	Mixed	Mixed
Rainfall	No	No	No	Yes	No	No
KP F statistic	10.07	10.37	7.547	12.48	10.37	10.37
R^2	0.0918	0.114	0.0809	0.115	0.114	0.114

Dependent Variables: total votes cast at polling center(s) connected by road, winsorized at the 99th percentile. In columns 5 and 6, we evaluate votes cast for Ghani and Abdullah.
- All columns include an omitted population-on-road control.
- High traffic roads connect Afghanistan's top 100 population centers to the national capital Kabul.
- Clustered standard errors (by district) in parentheses.
$^{\gamma}$ $p < .1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

6 Conclusion

We investigate insurgents' violent electoral strategies in Afghanistan and argue that the Taliban faces constrained optimization, trying to maximize disruption to the election while minimizing civilian casualties. Combining numerous statements made by the Taliban and journalistic coverage of the insurgent group with new and extensive micro-level data on violence and electoral features, our results demonstrate that this motivation importantly shapes insurgents' tactical choices in election periods to a greater extent than it generally does at other times. We show that insurgents increase attacks during the campaign and on election day to interrupt the voting process, but time these attacks on election day to deter turnout while minimizing direct harm to voters. We also find that insurgents expanded the deployment of IEDs during the month before the 2014 election, but only along segments of the road network that would experience heightened traffic on election day. While they targeted these roads more frequently, insurgents demonstrated restraint in the intensity with which critical elements of the road network—used by voters to travel to polling stations—were bombed. These attacks, while reducing loss to civilian life, differentially affected Pashtun voters, the ethnic constituency most likely to support the Taliban, and arguably the bloc that the Taliban most needed to keep from engaging in the formal democratic process. The instrumental variable estimation of violence's negative effect on turnout show how effective the Taliban was in damaging the electoral process, all the while minimizing harm to civilians.

Our project provides a number of important insights for theory, empirics, and policy. We advance a theory that accounts for the strategies employed by insurgents to disrupt elections and explains temporal and spatial variation in electoral attacks. We relate these strategies to other illicit groups and the economics of criminal enterprises, by examining the violent strategies and related outcomes employed by insurgents. Similar to other illicit groups, insurgents face managerial dilemmas that impede progress towards joint goals in the shadow of illegality. We explore the logic of insurgents' use violence to take over the state while minimizing civilian deaths, distinct from other kinds of criminals that may deploy violence differently by, for example, maximizing damage to official government targets or indiscriminately attacking civilians. Highlighting this constraint,

we explore the empirical implications of when and where insurgents attack. To test implications of that theory, we leverage new data and an empirical strategy at a granular level over multiple elections in a single case. Our theory, which highlights the trade-off insurgents face in minimizing harm to civilians while maximizing disruption to elections, explains why there is so much observed variation in insurgents' use of violence across cases and within a single case over time.

Our results demonstrate the tension between the specific effects of violence on citizens' behavior and the conduct of elections more generally. Despite their best efforts, insurgents have failed to definitively stop elections in Afghanistan, and indeed, millions of voters continue to turn out to demonstrate buy-in to the democratic system (Coburn and Larson, 2014; Jung and Long, 2016; Condra et al., 2016), despite the imperfections in the performance of democracy thus far. However, we note how insurgent violence affects citizens' electoral participation and voter turnout, especially in Pashtun areas. Whereas Afghan voters in our study no doubt want to avoid harm, competition for "hearts and minds" shapes voters' expression of allegiance to the democratic state and desire to vote against support for the Taliban. The tension created between these pushes and pulls and empirically investigating the impact on elections provides important evidence on the degree to which insurgent actions undermine democratic institutions by affecting electoral participation.

More broadly, our study contributes to the political economy of development regarding the institutional determinants of state-building and long-run economic growth (Greif, 2006; Acemoglu et al., 2001, 2005; Acemoglu and Robinson, 2012; Acemoglu et al., 2014b; Engerman and Sokoloff, 1997; North and Weingast, 1989; Fukuyama, 2014; Besley and Persson, 2014). Positive economic performance is more likely when diverse social and economic actors gain institutional inclusion and representation. We focus on one institution—elections—and specify conditions under which the failure of this institution to *de jure* or *de facto* include, or stave off, insurgent groups undermines a vital benchmark for development. While elections are only one of many important institutions for state-building (Acemoglu and Robinson, 2016), their very conduct may erode state capacity in nascent democratic regimes if they are not conducted peacefully (Collier, 2009), and insurgents do not lay down arms to compete as political parties. Specifically, we speak to the large theoretical and policy concern regarding the role of elections and other democratic institutions in

peace-building after civil wars. Whereas others have noted the importance of negotiating with former combatants to allow them to legally compete in elections, less attention has been paid to the role that insurgents who reject formal negotiations and institutions play in spoiling fragile peace by threatening processes like elections. More thought and attention should be paid to how insurgents continue to destabilize elections and democratic consolidation in the series of cases where there are both elections and insurgency, rather than just focusing on whether elections with former combatants is enough to successfully transition from previously conflict-ridden non-democratic regimes to peaceful democracies. Policy responses to deal with ongoing insurgencies during democratic consolidation could look very different from how peace is negotiated at the outset of transition. For example, scholars and policymakers debate when to hold founding elections in post-conflict settings. Whereas in countries like Iraq (which held elections relatively soon after the invasion), elections have remained violent, in Afghanistan, elections were not as quickly held, and subsequent elections have been more violent than founding elections. The timing of the election itself may not be the most important factor towards understanding the propensity for election violence and democratic consolidation; rather, the existence of ongoing insurgency that threatens elections may matter more.

Last, our results contribute to scholarship that provides guidance for policymakers concerned with developing and deploying effective counterinsurgency strategies (Powell, 2007; Dragu, 2011; Johnston, 2012). The stakes in Afghanistan continue to be enormous. The U.S. Congress has appropriated over 60.7 billion dollars over the last decade to spend on Afghan security forces (Boyer, 2015), and the Afghan government has trained, paid, and deployed hundreds of thousands of police and army forces specifically to secure elections (NDI, 2011). While the occurrence of violence on election days in Afghanistan may cause some observers to question whether to have elections at all, we believe that they are still relevant for the government to solidify its authority and strengthen its legitimacy as citizens vote. However, understanding the variation in insurgent tactics should allow the government to develop better counterinsurgent strategies that hope to assist elections and consolidate peace. Exploring the constrained optimization problem that insurgents face helps interpret the data on the variation of their attacks. While the Afghan and Coalition security forces

seem sensitive to greater deployments around elections, we provide further micro-level data on more precise timing and locations. Counterinsurgency efforts could anticipate this, and in doing so, make it much safer for Afghans to remain secure and vote. We think our approach, use of rich data sources, and results provide comparative insights and findings to other countries where violence threatens democratic consolidation after recent regime transitions, including Somalia, Yemen, Libya, and Egypt.

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SUPPORTING INFORMATION
— For Online Publication —

Figure SI-1: Daily Indirect Fire Attacks, 2005 through 2014. Dashed red lines represent election dates.

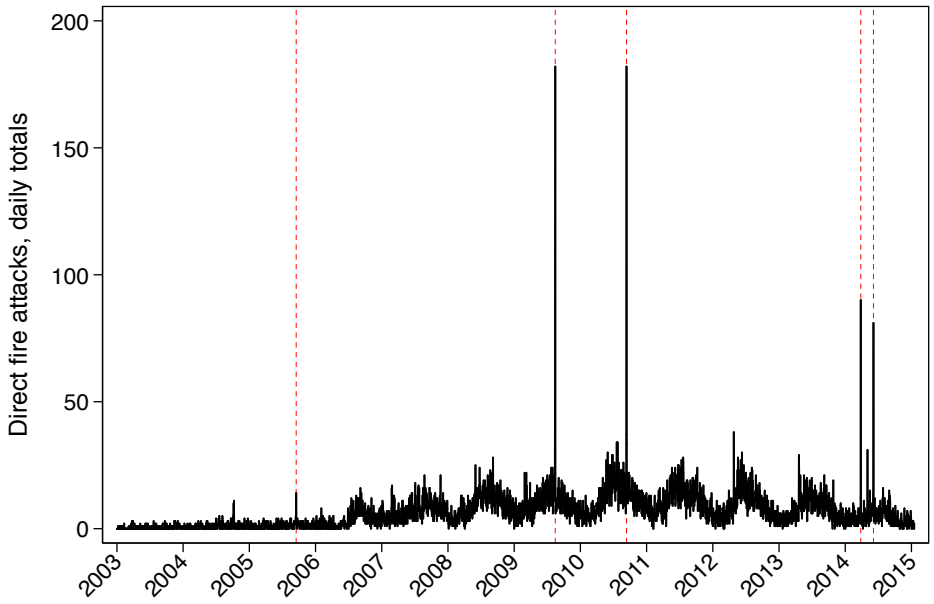
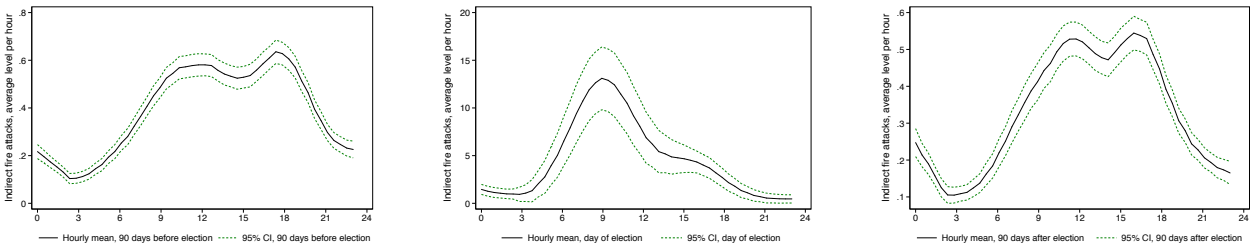
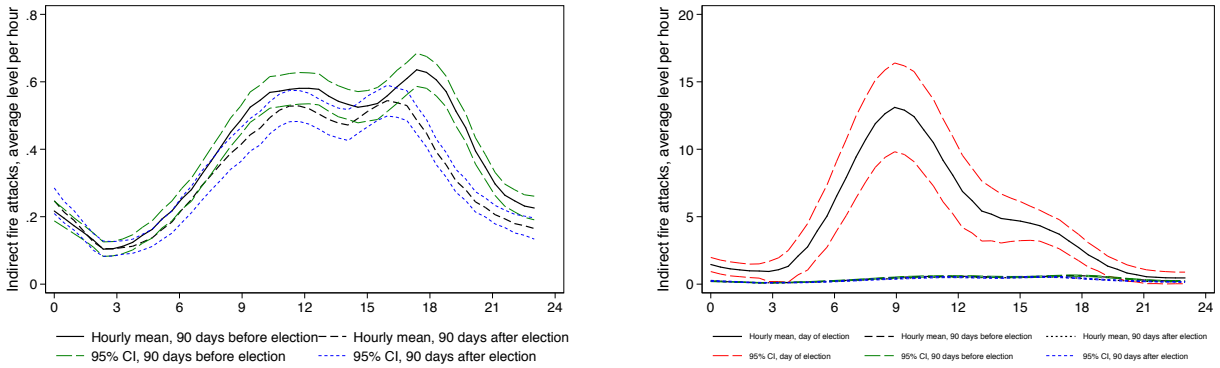


Figure SI-2: Indirect fire attacks, by hour of day, before, on, and after election days



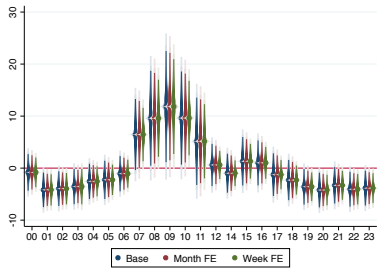
(a) 90 days before election (b) Election day (c) 90 days after election

Figure SI-3: Comparing trends in indirect fire attacks, by hour of day

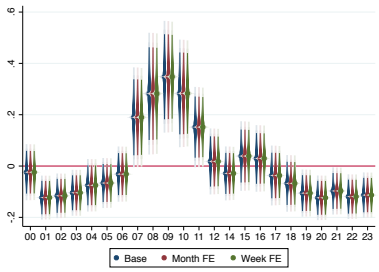


(a) 90 days before vs. 90 days after election (b) Pre/post trends with Election Day

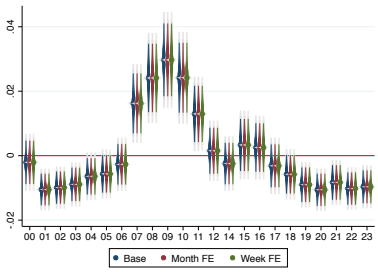
Figure SI-4: Violence by hour, election day vs. non-election day using ninety-day window (national, province, district). 95% confidence intervals reported using robust standard errors.



(a) National

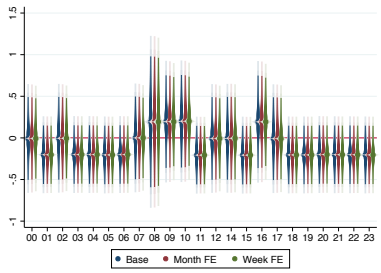


(b) Province

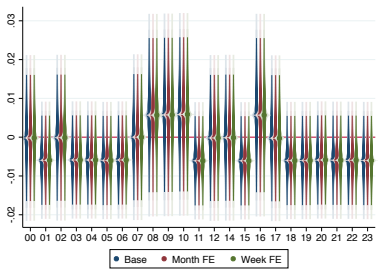


(c) District

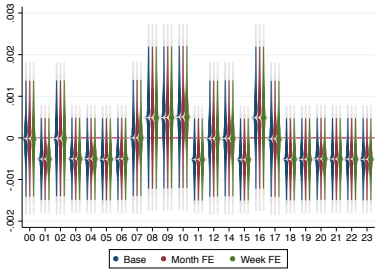
Figure SI-5: Civilian killings by hour, election day vs. non-election day using ninety-day window (national, province, district). 95% confidence intervals reported using robust standard errors.



(a) National



(b) Province



(c) District

Figure SI-6: Population settlements.

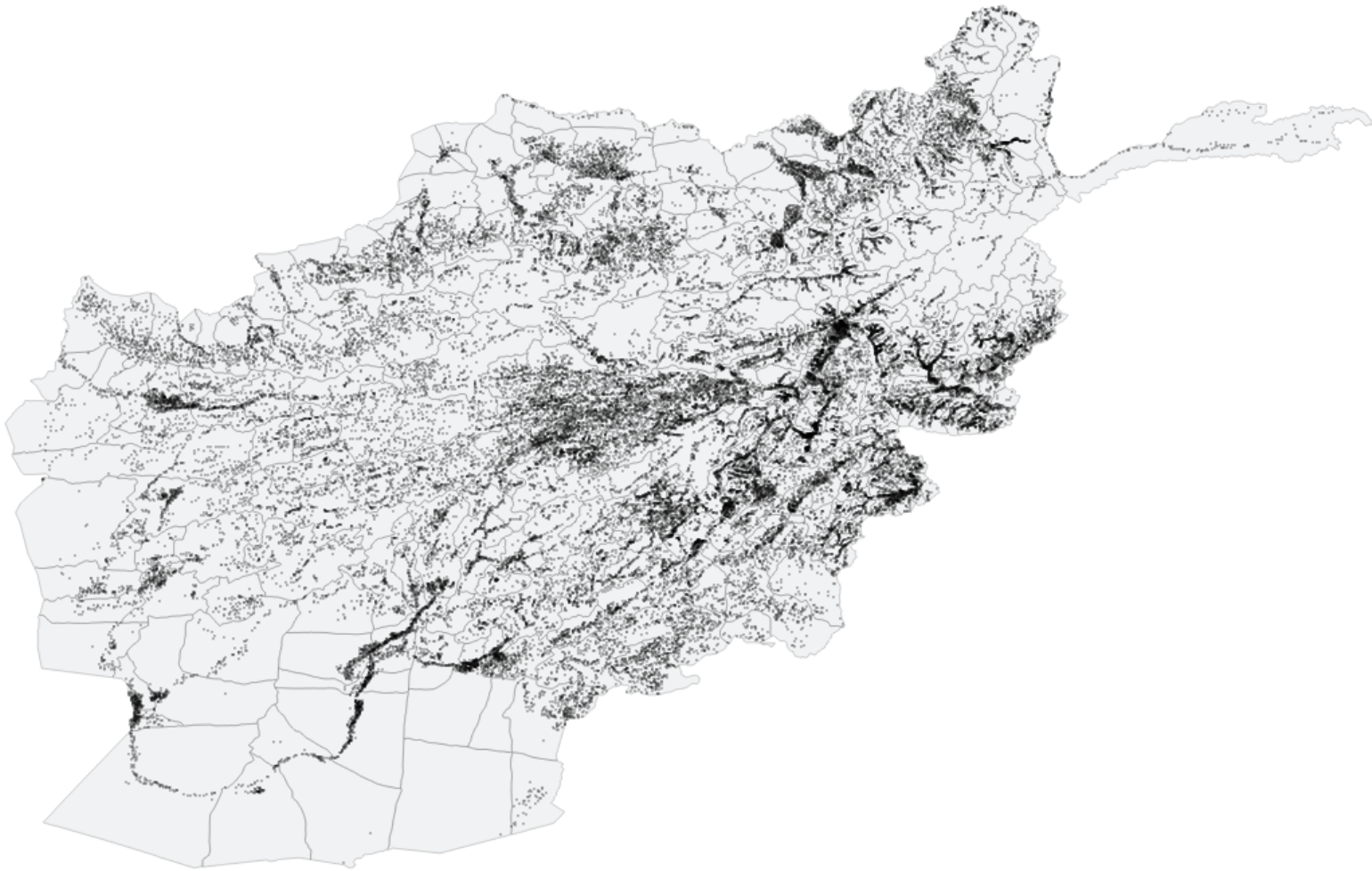


Figure SI-7: Announced polling stations, 2014 Presidential Election.

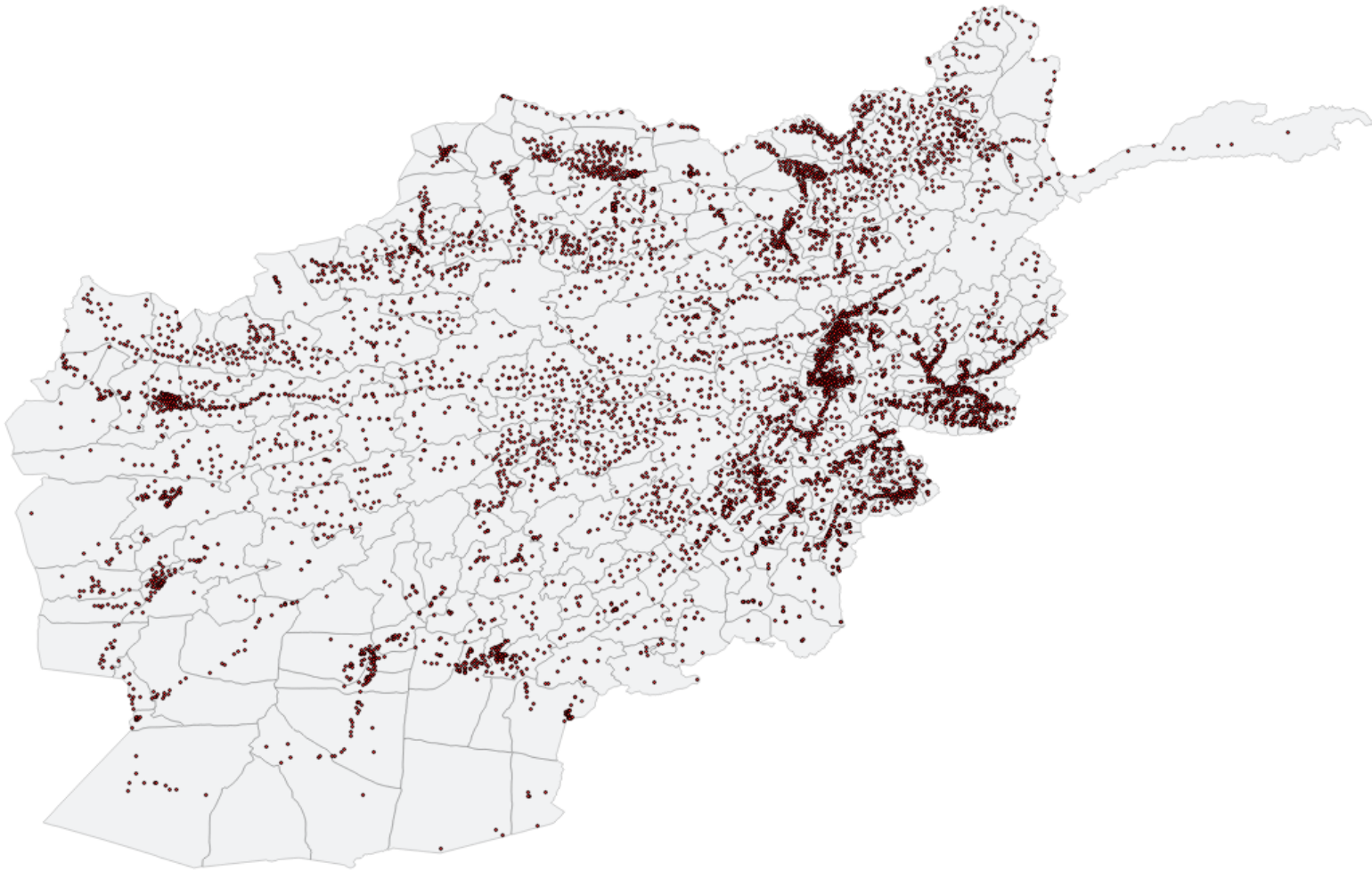


Figure SI-8: Incidents of improvised explosive device deployment, snapped to relevant elements of the road network.

