

Mid-Year Report

The Social Impact of Casino Gaming in North Texas

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Abstract

As efforts to legalize commercial casino gaming in Texas continue, the North Texas Commission engaged the University of Texas at Dallas to explore the potential social impacts of casino gaming on North Texas communities. Through its Institute for Urban Policy Research and the School of Economic, Political, and Policy Sciences' Policy Lab, Drs. Lamberova and Bray guided a group of students in the Fall Semester of 2025 as they reviewed extant literature and developed an analytical plan to accomplish this task. This mid-year report covers their review of the extant literature and outlines the proposed model for estimating and projecting social impacts in North Texas.

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Contents

1	Introduction	3
2	Scope of Review	3
3	Research Question and Empirical Strategy	4
3.1	Step 1: Outcomes of interest	4
3.2	Step 2: Learning effects from other casino locations	5
3.3	Step 3: Extrapolating effects to North Texas via a synthetic method	6
4	Social Impacts in the Extant Literature	7
4.1	Measurement and Methodological Foundations	8
4.2	Crime and Public Safety	9
4.3	Youth Outcomes and Higher Education	10
4.4	Mental Health, Behavioral Health, and Overall Health	11
4.5	Economic and Market Considerations	13
4.6	Integrating the Evidence Across Social Indicators	14
4.7	Limitations and Research Priorities	15
5	Review of Social Impact Indicators Proposed for Consideration	16
5.1	Crime and Public Safety	17
5.2	Substance Use, Alcohol-Related Disorder, and Public Order	20
5.3	Youth Outcomes and Higher Education	21
5.4	Special Populations (Older Adults and Veterans)	23
5.5	Market Structure, Substitution, and Fiscal Interdependence	24
5.6	Tourism, Place Management, and Comparative Destinations	26
5.7	Health Harms and Harm Reduction	27
6	Next Steps	29
7	APPENDIX	A-1
A1	Guide to Evaluating Papers	A-1
1	Why this guide?	A-1
2	First question: correlation or causation?	A-1
3	Checklist: wording that signals stronger or weaker designs	A-2
4	Who is being compared to whom?	A-3
5	Why trends over time matter: a concrete example	A-4
6	Typical pitfalls in “casino impact” studies	A-5
7	What stronger designs look like in this area	A-6
8	A practical checklist for reading casino impact studies	A-7
9	Putting it together: how to weigh different kinds of evidence	A-8
10	Key takeaway for policymakers	A-8

1 Introduction

Since the turn of the century, more than 10 bills and resolutions have been introduced in the Texas Legislature with an aim at reforming the state's position on commercial casino gaming. Interest in legalized commercial casino gaming has increased in recent sessions, and current trends suggest the interest will continue in future sessions. Given that landscape, the North Texas Commission (NTC) has engaged faculty and students at the University of Texas at Dallas to explore the potential social impacts of commercial casino gaming on North Texas communities.

2 Scope of Review

This review is confined to the social impacts of commercial casino gaming, and the forthcoming quantitative projection is confined to an estimation of effects on North Texas communities. Our literature review focuses on a broad spectrum of social impacts explored in the extant literature. While the majority of literature we reviewed explored the impacts of commercial casino gaming, some research areas feature tribal gaming more heavily.

The sections that follow outline our work to date.

1. Research Question and Empirical Strategy

This section outlines our empirical approach for estimating the social impact in North Texas. As the reader will note, we propose a fairly robust methodological approach that involves exploring effects observed in other states to create a synthetic "Texas" where commercial casino gaming has been legalized. This sophistication has implications for the number of indicators that we can explore, a point we will discuss more fully later in this paper.

2. Social Impacts in the Extant Literature

With our methodological approach defined, we next turn to an exploration of the extant academic literature on the social impact of casino gaming. Our extensive review has focused largely on the impact areas of interest identified in partnership with the North Texas Commission: crime and public safety; youth outcomes and higher education; mental health, behavioral health, and overall health; and economic and market considerations.

3. Review of Social Impact Indicators Proposed for Consideration

Based on our review of the extant literature, we propose a slate of candidate indicators for potential inclusion in the analytical framework. As noted below, the methodological rigor of our proposed methodology imposes significant constraints

on the data we may use. For that reason, our analysis will necessarily be limited to a subset of the broad slate of indicators we propose herein.

Finally, we include in an appendix a *Guide to Evaluating Papers*. Our review of the extant literature has revealed a wide array of methodological sophistication in research to date, some of which are better equipped to indicate causality than others. Our hope is that this guide will help readers evaluate the numerous articles circulating about the social impact of casino gaming.

3 Research Question and Empirical Strategy

Our key research question is as follows:

How would the legalization of commercial casino gaming in North Texas affect crime, youth outcomes, mental health, and alternative forms of gambling?

Because casinos have not yet been placed in these North Texas locations, we cannot directly observe the before/after impact there. Furthermore, as we will discuss below, simple before/after comparison can be misleading, as it ignores pre-existing trends. Instead, we must:

1. Select relevant outcomes of interest based on the existing literature.
2. Learn the causal effects of casino openings in locations where casinos have already been introduced.
3. Extrapolate those effects to the two North Texas locations.

The core challenge is to construct a credible **counterfactual**: what would have happened in a given location if a casino had not been placed there? Our empirical strategy first builds such counterfactuals for places that actually did (or almost did) receive casinos, and then uses these estimated effects to predict impacts in North Texas.

3.1 Step 1: Outcomes of interest

Guided by the literature on casinos, gambling, and local development, we group outcomes into four broad domains:

1. **Crime and Public Safety**: e.g. property crime, violent crime, and other relevant offense categories.
2. **Youth and Higher Education**: e.g. school attendance, disciplinary incidents, academic performance, and graduation or dropout measures.
3. **Mental Health, Behavioral Health, and Overall Health**: e.g. hospitalizations or emergency visits for mental-health-related conditions, suicides or suicide attempts

where feasible.

4. **Economic and Market Considerations:** e.g. lottery sales, online sports betting, other legal or informal gambling activities.

In the sections that follow, we explore the extant academic literature and identify a broad set of potential outcome measures. For each domain, we will select a subset of outcomes that are consistently measured across locations and over time, and that the previous literature has flagged as potentially casino-sensitive.

3.2 Step 2: Learning effects from other casino locations

To learn the causal effects of casinos, we rely on quasi-experimental variation from locations that have already undergone casino licensing decisions. In particular, we use the research design described in [Anisfeld and Rosenthal-Kay \(2025\)](#). In cases where data do not meet the criteria for our baseline analysis, we will construct a synthetic unit of interest (ISD, county, school campus, zip area) that mimics the performance of the treated unit before casino opening, and compare the actual unit to that synthetic projection.

3.2.1 Runner-up design and the counterfactual

[Anisfeld and Rosenthal-Kay](#):

- Locations that **were awarded** a casino license, and
- “Runner-up” locations that **narrowly lost** the opportunity to host the same casino.

Because the winning and runner-up locations are chosen through a tightly scored licensing process, the identity of the eventual winner in each pair can be treated as **as-if random**. In other words:

- Conditional on being in a finalist pair, the winning and losing locations are very similar ex ante.
- Which member of the pair receives the casino is effectively determined by a narrow, quasi-random margin.

This design has a clear interpretation:

- The runner-up locations form a **proper control group**: they are highly comparable to the casino locations but do not receive a casino.
- The change over time in outcomes in runner-up locations tells us what would likely have happened in the winning locations *if they had not received a casino*—that is, the **counterfactual** trend.

For each pair of winner and runner-up locations, we compare:

Change in outcomes where a casino opened vs.
Change in outcomes in the runner-up (no casino) location.

The difference between these two changes gives us an estimate of the **causal effect of the casino** on the outcomes of interest for that pair. We compute such effects across all pairs of locations and for each outcome (crime, youth outcomes, mental health, and alternative gambling), obtaining a set of location-specific effect estimates.

This design requires the following: the runner-up location and the winner location should have the same trends in the outcome of interest before the treatment (casino opening for most cases, casino announcement for economy-related outcomes). If this fails, we would need to switch to a synthetic control method. We will use a similar method to project the effects to North Texas locations (see details below).

3.3 Step 3: Extrapolating effects to North Texas via a synthetic method

The next challenge is to translate these estimated effects into predictions for the two North Texas locations. No existing casino location will be *exactly* like North Texas, either in levels of crime and other outcomes, or in how those outcomes evolved prior to casino legalization in other locations. Instead of choosing one “most similar” place by hand, we construct a **synthetic** version of each North Texas location.

3.3.1 Intuition: synthetic North Texas

The idea of the synthetic method is to approximate North Texas by a **weighted average** (a convex combination) of observed locations:

- Suppose we have 10 casino-eligible locations from the runner-up design, indexed by $i = 1, \dots, 10$.
- Some locations (say 1–3) look very different from North Texas in terms of historic crime levels and trends.
- Others (say 4–5) look very similar, and the remaining ones are somewhat similar.

We assign non-negative weights w_i to these locations that sum to 1. These weights are chosen by an algorithm to make the **weighted average of past outcomes** in the donor locations match the pre-casino data for North Texas as closely as possible. Concretely, for a given outcome (e.g. crime), the weights are chosen so that:

- The weighted average crime level in the donor locations matches the pre-casino crime level in North Texas.
- The weighted average changes in crime over time in the donor locations match the pre-casino crime trajectory in North Texas.

In a typical case:

- Weights on very dissimilar locations (1–3) will be close to zero.
- Weights on the most similar locations (4–5) will be relatively large.
- Weights for the remaining locations will lie between.

3.3.2 From local effects to predicted North Texas effects

Once we have the weights w_i for a North Texas location, we use them to combine the estimated casino effects from each donor location:

- Let $\hat{\tau}_i$ be the estimated causal effect of casinos on an outcome (e.g. crime) in donor location i , obtained from the winner/runner-up comparison.
- The predicted effect for the North Texas location is then:

$$\hat{\tau}^{NT} = \sum_{i=1}^{10} w_i \hat{\tau}_i.$$

Intuitively, this says:

The effect of casinos in North Texas is approximated as a weighted average of effects in places that are historically similar to North Texas, with greater weight given to the most similar places.

3.3.3 Reducing researcher discretion

A key advantage of the synthetic approach is that the weights are **not** chosen informally by the researchers. Instead, they are selected by a well-defined optimization routine that:

- Minimizes the discrepancy between pre-casino outcomes in North Texas and the weighted average of donor locations, subject to weights being non-negative and summing to one.
- Uses only pre-casino data to construct the synthetic North Texas, thereby avoiding tuning based on post-casino outcomes.

This reduces the researcher’s discretion at the stage of outcome calculation and strengthens the credibility and transparency of the extrapolation. For each outcome domain (crime, youth outcomes, mental health, and alternative gambling), we repeat this process, producing a set of synthetic-based predictions for how casino legalization would affect the two locations in North Texas.

4 Social Impacts in the Extant Literature

In this section, we review our team’s work on the broader social impacts of casino gaming. The contemporary literature on commercial casino gaming reaches beyond simple

economic metrics to interrogate a set of interlinked social indicators—crime and public safety; youth outcomes and higher education; mental health, behavioral health, and overall health; and economic and market conditions. Across these domains, findings are rarely absolute. Outcomes depend heavily on research design, data sources, market structure and maturity, the surrounding tourism ecology, and policy environments. As a result, the empirical record contains both consistent empirical regularities (e.g., property and certain white-collar crimes appear most sensitive to casino introduction) and important contingencies (e.g., whether visitor inflows are properly accounted for, or whether gambling products substitute for one another). This synthesis integrates the findings into a coherent narrative, emphasizing the pathways through which casinos can generate benefits, risks, or both—sometimes simultaneously.

4.1 Measurement and Methodological Foundations

A central reason the literature yields seemingly divergent conclusions is methodological. For example, crime research frequently relies on Uniform Crime Reporting (UCR), National Incident-Based Reporting System (NIBRS), and police calls-for-service data. These sources differ in coverage and in how they handle multi-offense incidents, with the UCR's historical *Hierarchy Rule*, voluntary participation, and the persistent “dark figure of crime” (offenses not reported to or recorded by police) shaping what appears in the data and what remains invisible. Consequently, estimates of changes in crime following casino openings can be biased if analysts do not account for under-reporting, agency submission gaps, or shifts in reporting practices over time (e.g., upgrades to NIBRS).

Analytically, research designs range from cross-sectional or simple before-and-after comparisons to fixed-effects panel models, difference-in-difference models, and event-study frameworks. Identification challenges loom large. Casinos are rarely located at random; they are often sited where tourism amenities, transportation infrastructure, or political-economic conditions already differ from those in control areas. In studies of gambling markets, researchers have shown that ordinary least squares (OLS) regression can obscure substitution or displacement effects that become evident only when strategy-resistant designs—such as difference-in-difference combined with instrumental variables—are used (Humphreys, 2021). Similarly, classic perspectives in economics suggest that casinos may both *cannibalize* proximate entertainment expenditures and *complement* tourism economies, suggesting that net social outcomes hinge on context and product mix (Eadington, 1999).

Implication: Findings must be interpreted through the lens of data quality and identification. Evaluations that adjust for visitor volumes, incorporate adequate pre-trends, and test robustness to alternative specifications yield more credible estimates of social impact.

4.2 Crime and Public Safety

4.2.1 Types of Crime

Among the most consistent findings in the empirical record is that economically motivated offenses—especially **property crime** (e.g., larceny, motor vehicle theft, robbery) and some **white-collar crime** (forgery, fraud, embezzlement)—demonstrate sensitivity to casino activity in certain settings. National- and state-level panel studies, as well as community-level analyses, have reported notable increases in these categories after casino introduction (Friedman et al., 1989; Giacomassi and Stitt, 1994; Grinols and Mustard, 2006). Research in Canada and the United States has tied some white-collar arrests to problem gambling among offenders who commit financially motivated crimes to support losses (Arthur et al., 2014; Gazel et al., 2001). Survey-based work in Macau similarly finds measurable levels of occupational theft within the gaming sector workforce, though such offenses comprise a small fraction of overall crime (Pontell et al., 2022).

By contrast, **violent crime** effects are less consistent. Several studies find no statistically significant association with homicide or sexual assault (Chang, 1996; Giacomassi and Stitt, 1994). One national analysis, however, suggests a delayed rise in rape and aggravated assault following casino openings (Grinols and Mustard, 2006), while a study in Indiana reports a **decrease** in rape in one host city (Wilson, 2001). These mixed results imply that violent outcomes are more likely to be mediated by local nightlife contexts, alcohol service, security practices, and policing strategies than by casinos per se.

Importantly, some research complicates the prevailing narrative. Using fixed-effects panel regressions, Reece (2010) finds that casino activity (as proxied by turnstile counts) is associated with **reductions** in several crime rates, including larceny, motor vehicle theft, assault, and robbery, while also reporting a delayed increase in burglary three to four years after a new casino opens. Albanese (2008) similarly reports post-introduction **declines** in forgery and fraud in several jurisdictions. These results underscore a broader point: the direction of change can pivot on local implementation and the time horizon examined.

4.2.2 Short-run vs. Long-run Dynamics

Time matters. In one of the most widely cited national studies, Grinols and Mustard (2006) report that crime effects are primarily **long-run**: first-year and second-year changes are often small or statistically insignificant, with more pronounced increases emerging in years three through five. They posit that immediate job creation and security investments may initially suppress crime, while the development of gambling problems—and the associated financial strain that can motivate economically driven offenses—takes time to unfold. Yet the long-run pattern is not universal. In Michigan, Falls and Thompson (2014) find that when explicitly modeling casino age, the long-term effect on robbery is **negative**, indicating a decline as casinos mature. Short-term evaluations are equally heterogeneous: some record immediate increases (Gazel et al., 2001; Giacomassi and

Stitt, 1994; Lan et al., 2021; Piscitelli and Albanese, 2000; Stitt et al., 2003), others find decreases (Chang, 1996; Johnson and Ratcliffe, 2017), and still others detect no change (Illinois Criminal Justice Information Authority, 1994; Wilson, 2001).

4.2.3 Spatial Spillovers and the “Population at Risk”

Spatial patterning is another recurring theme. Early work on Atlantic City found that crime increases were not confined to casino properties but spilled over into adjacent communities and along **transportation corridors** feeding the destination (Friedman et al., 1989). More recent work shows increased crime on **college campuses** within a 10-mile radius (Hyclak, 2011), while place-based analyses in Cincinnati map distinct hot spots around downtown gaming venues (Lan et al., 2021). Studies of temporal rhythms in Reno report that calls for disorder in casino areas climax in the early morning hours—timing aligned with nightlife dynamics—while property crime peaks show similar diurnal patterns inside and outside casino zones (Barthe and Stitt, 2009).

A critical corrective in this literature is the adjustment for **tourist exposure**. When researchers treat incidents as a function of resident population alone, they risk overstating crime rates in host communities. Analyses that incorporate visitor counts or hotel occupancy can flip the interpretation: raw incidents may rise while **visitor-adjusted rates** fall or remain stable, indicating relatively lower risk per person even as total incidents increase (Chang, 1996; Barthe and Stitt, 2009). Routine activities theory supports this intuition: tourists are “suitable targets”—they carry cash, are unfamiliar with neighborhoods, and are less vigilant—so increments in crime may reflect visitor victimization more than increased risk for residents (Wilson, 2001).

Synthesis: The crime literature converges on a few durable themes: property and some white-collar offenses are most responsive to casino presence; violent crime effects vary and are context-dependent; long-run dynamics and market maturity matter; and proper denominators (visitor-adjusted rates) are essential to infer community risk accurately.

4.3 Youth Outcomes and Higher Education

Casinos can shape youth outcomes by two partially offsetting channels: **resource effects** and **risk exposure**. On the resource side, gaming revenues have funded **scholarships** and educational improvements in some tribal and local contexts, potentially widening access to higher education (Akee et al., 2010; Martin and Adams, 2006, as reviewed). Such investments may also indirectly reduce stress in households that benefit from casino employment or community revenue sharing, with plausible protective effects for youth mental well-being.

On the risk side, adolescents and college students who gamble—especially those meeting screens for **problem gambling**—display higher rates of **hazardous drinking, cannabis dependence, psychological distress, and delinquent behaviors** than non-gamblers or

casual gamblers (Cook et al., 2015). Cross-sectional and longitudinal evidence likewise associates youth gambling with a cluster of health-risk behaviors, including daily smoking and illicit drug use, although the direction of causality is difficult to pin down and likely **bidirectional** in many cases (Hayatbakhsh et al., 2012). Among college students specifically, elevated gambling can erode **academic performance** by displacing study time and impairing concentration (e.g., Allen et al., 2025, as reviewed). The **net** educational effect in a given community thus hinges on the balance between institutional investment (scholarships, school inputs) and individual-level risks tied to increased gambling exposure.

Implications: Youth prevention and screening should be integrated into school, pediatric, and campus settings, with targeted supports for households where parental gambling problems are present. If scholarship dollars and capital funds are paired with prevention programming, communities can harness the benefits of casino revenue while limiting spillover risks for youth.

4.4 Mental Health, Behavioral Health, and Overall Health

Research on the health effects of commercial casino gaming highlights a complex relationship between gambling environments, behavioral health, and broader community well-being. While most individuals engage in gambling without severe consequences, a subset experience harms that intersect with mental health, substance use, and other health outcomes. The following sections review evidence on alcohol-related disorders and public order concerns, vulnerabilities among specific populations such as older adults and veterans, the intertwined nature of comorbid conditions, and emerging approaches to harm reduction and integrated care.

4.4.1 Substance Use, Alcohol-Related Disorder, and Public Order

Casinos are social environments that bundle gambling with alcohol and nightlife amenities. Unsurprisingly, the evidence on alcohol- and drug-related outcomes is mixed and highly contingent on local policy and enforcement. In Philadelphia, a quasi-experimental analysis around a new casino found that **drug crime** (buying/selling) **decreased** within the casino area and a surrounding buffer after opening, suggesting a **benefit diffusion** effect—possibly due to increased guardianship and surveillance (Johnson and Ratcliffe, 2017). Conversely, in one Indiana riverboat setting, the casino’s presence correlated with small yet statistically significant increases in **driving under the influence** (2.20%) and **public intoxication** (3.22%) (Wilson, 2001). Other work finds **no** association between casino introduction and intoxicated driving incidents (Gazel et al., 2001).

These varied findings likely mirror differences in bar and floor service policies, closing times, server training, transit availability (e.g., late-night ride-share), and targeted enforcement around exits and parking structures. They also underscore an important generalization: alcohol-related harms around casinos appear **policy-sensitive**. Where place

management and transportation safety are emphasized, substance-related public order problems may be mitigated even as foot traffic grows.

4.4.2 Special Populations: Older Adults and Veterans

Two special population profiles feature prominently.

Older adults (60+) who frequently visit casinos (e.g., monthly) score higher on screens for problem gambling and report more mental health challenges than non-visiting peers (Zaranek and Lichtenberg, 2008). The South Oaks Gambling Screen (SOGS) and DSM-based criteria are commonly used in this literature, underscoring clinically meaningful elevations in risk for a subgroup of older adults (Cheung, 2014). The mechanism may involve a mix of fixed incomes, social isolation, and the allure of structured leisure environments that provide social contact but also repeated exposure to high-velocity gambling products. For this population, routine, low-burden screening in senior centers and primary care, paired with brief interventions and referral pathways, can be impactful.

Veterans exhibit high rates of recreational gambling, and a measurable minority screen positive for **at-risk/problem gambling**; those who screen positive display higher prevalence of **substance use** and **anxiety** than veteran non-gamblers or low-risk gamblers (Stefanovics et al., 2017). Integrating gambling screening into VA and community behavioral health workflows can surface problems earlier and facilitate co-management of gambling with comorbid post-traumatic stress disorder (PTSD), depression, or substance use disorders.

4.4.3 Directionality, Comorbidity, and Care Integration

The association between gambling and mental health is notably **reciprocal**. On one hand, population studies and clinical samples document significant associations between gambling and a range of mental and behavioral health problems (Okunna et al., 2016). On the other hand, longitudinal work identifies pre-existing **psychiatric diagnoses**—including substance use disorders, borderline personality disorder, bipolar affective disorder, and psychotic disorders—as **predictors** of subsequent problem gambling (Manning et al., 2017). Cross-lagged path models complicate the picture further: for example, one cohort analysis found that alcohol use, daily tobacco use, and drug use at an earlier wave did **not** predict the later development of any-risk gambling (low, moderate, or problem levels), suggesting that substance pathways to gambling disorder are not uniform across populations (Dowling et al., 2019).

Within treatment populations, **disordered gamblers**—defined by DSM-5 criteria—report higher **drug use** and **impulsivity** than non-disordered gamblers, highlighting shared etiological factors (Palmer-Bacon et al., 2017). The takeaway is programmatic rather than rhetorical: **integrated care** models that screen for gambling in mental health and substance use services (and vice versa) are more likely to intercept escalating harm than siloed systems. Screening tools can be brief; referral and stepped-care options—ranging

from motivational interviewing to cognitive-behavioral therapy and financial counseling—should be embedded where individuals already self-present for care.

4.4.4 Health Harms and Harm Reduction

A thread of evidence from natural policy experiments suggests that restricting access to **high-risk products**—notably electronic gaming machines (EGMs)—is associated with **lower gambling problems** at the population level (Russell et al., 2023). Complementary survey-based work documents that spending at casinos is often **diverted** from other household consumption categories, with potential secondary effects on local retail and service sectors (Room et al., 1999). Systematic reviews synthesize these patterns, arguing that long-term social costs can weigh against revenue benefits absent intentional harm-minimization (Marionneau and Nikkinen, 2017, 2020).

Evidence-informed **harm-reduction** strategies include limits on machine speed and bet size, plain-language loss/time displays, mandatory breaks, venue staff training to identify risky play, and robust **self-exclusion** programs. The most promising results come when these measures are embedded in a broader ecosystem of **treatment access**, financial counseling, and proactive outreach to at-risk groups (e.g., veterans, older adults, and youth with family gambling problems).

4.5 Economic and Market Considerations

4.5.1 Market Structure, Substitution, and Fiscal Interdependence

From an economic perspective, the most robust cross-cutting theme is **substitution**: new gambling products frequently reallocate demand rather than generating purely additive consumption. Foundational work framed casinos as capable of both cannibalizing nearby entertainment spending and complementing tourism inflows (Eadington, 1999). Empirically, casinos have repeatedly been shown to **displace lottery demand**, especially during entry periods—e.g., additional slot machines associated with lower lottery revenues or sharp local declines in multi-state game sales when a new casino opens nearby (Siegel and Anders, 2001; Cummings et al., 2017). Studies of electronic and video gaming terminals, fixed-odds betting terminals, and sports betting find both substitution and complementarity depending on **proximity**, **product design**, and **market maturity** (Paton and Williams, 2013; Phipps et al., 2020; Toossi and Zhang, 2019; Humphreys, 2021; Nedved and Ferreira Neto, 2024).

This substitution logic carries through to **fiscal outcomes**. Gambling revenues behave like an implicit tax whose yield depends on consumer demand; when new products compete for the same payer base, aggregate public receipts may be **lower** than headline figures imply because one product's gains are another's losses (Siegel and Anders, 2001; Phipps et al., 2020; Toossi and Zhang, 2019; Humphreys, 2021). Moreover, governments engage in **intergovernmental competition**—tuning payout rates or product portfolios

in response to neighbors—further destabilizing the tax base (Brown and Rork, 2005). Even inside the lottery sector, new formats can cannibalize older ones (Forrest and Pérez, 2011; Forrest et al., 2004).

For **non-gambling sectors**, household surveys and community studies document that casino expenditures are often **diverted** from other categories (e.g., entertainment, food, rent), although the magnitude varies by context (Room et al., 1999). Systematic reviews conclude that while gambling can bolster public budgets and catalyze tourism, these benefits may be **offset** by long-run social costs, including addiction, health burdens, and productivity losses, particularly where high-risk machine gambling is widely accessible (Marionneau and Nikkinen, 2020; Russell et al., 2023).

Implications: Fiscal forecasts should model cross-price elasticities across gambling formats and anticipate policy moves by neighboring jurisdictions. Earmarking a share of revenues for prevention, treatment, and independent evaluation can convert a volatile revenue stream into sustained capacity for harm reduction and evidence-guided policy.

4.5.2 Tourism, Place Management, and Comparative Destinations

Casinos are rarely standalone. They operate within **tourism ecosystems** comprising hotels, restaurants, bars, entertainment venues, and transportation nodes. Studies that compare gaming counties with other tourism counties indicate that crime profiles vary by **tourism type**; in Colorado, for example, ski counties recorded higher rates of property crime than casino counties, with no systematic differences in violent crime or total arrests across tourism categories (Park and Stokowski, 2011). This observation reorients policy attention from the binary “casinos or not” to **place management**: lighting, urban design, guardianship, crowd flow, responsible alcohol service, and night-time transit.

Adjusting crime metrics by visitor counts or footfall further clarifies the landscape. A rising numerator (incidents) paired with an even faster-rising denominator (visitors) can yield **declining per-capita risk**, especially for visitors, even as police workloads grow. This is not to minimize community costs—calls for service, staffing, and infrastructure must scale with foot traffic—but to emphasize that calibrated mitigation (e.g., targeted patrols during peak hours, ride share partnerships, server training) can materially shape outcomes (Barthe and Stitt, 2009; Chang, 1996; Wilson, 2001).

4.6 Integrating the Evidence Across Social Indicators

Pulling these strands together yields a pragmatic framework:

1. **Crime and public safety.** Expect the strongest and most consistent associations in **property** and **white-collar** crime categories, with **violent** outcomes varying by context. Anticipate **lagged effects**, and analyze through visitor-adjusted denominators to avoid over-attributing risk to residents (Friedman et al., 1989; Grinols and Mustard, 2006; Reece, 2010; Falls and Thompson, 2014; Barthe and Stitt, 2009).

2. **Alcohol, drugs, and disorder.** Substance-related outcomes are **policy-sensitive**. Targeted place management and transport safety can limit drunk driving arrests and intoxication-related offenses despite increases in foot traffic (Johnson and Ratcliffe, 2017; Wilson, 2001; Gazel et al., 2001).
3. **Youth and education.** Casino revenues can fund **scholarships** and schooling, but adolescent and college **problem gambling** correlates with substance use, distress, and lower academic performance. Net effects hinge on pairing investments with **prevention and screening** (Akee et al., 2010; Martin and Adams, 2006; Cook et al., 2015; Hayatbakhsh et al., 2012).
4. **Special populations. Older adults and veterans** present identifiable risk profiles; low-friction **screening** and integrated care in settings they already use (senior centers, VA clinics) are warranted (Zaranek and Lichtenberg, 2008; Stefanovics et al., 2017; Cheung, 2014).
5. **Mental health.** Associations are **reciprocal** and heterogeneous across cohorts; co-occurring disorders call for **integrated treatment pathways** rather than siloed services (Okunna et al., 2016; Manning et al., 2017; Dowling et al., 2019; Palmer-Bacon et al., 2017).
6. **Market and fiscal dynamics.** Product **substitution** is common; revenues are **interdependent** and vulnerable to cross-border policy competition. Forecasts should model **cannibalization** and earmark funds for harm reduction and evaluation (Eadington, 1999; Siegel and Anders, 2001; Cummings et al., 2017; Humphreys, 2021; Phipps et al., 2020; Toossi and Zhang, 2019; Nedved and Ferreira Neto, 2024).
7. **Tourism and place management.** Focus on **how** destinations are managed—lighting, guardianship, crowd control, alcohol service, and late-night transportation—rather than on casinos in isolation. Use **visitor-adjusted** metrics to guide deployment (Park and Stokowski, 2011; Barthe and Stitt, 2009).

4.7 Limitations and Research Priorities

Several gaps deserve emphasis. First, **causality under heterogeneity** remains a challenge: markets vary by product mix, regulatory standards, and tourism intensity, and cross-site quasi-experiments with harmonized methods are still scarce. Second, we need stronger **micro-macro linkages** connecting individual gambling trajectories (and debt dynamics) to neighborhood-level crime and health service demand. Third, standardized **visitor-adjusted indicators** would improve comparability across jurisdictions and over time, supporting more precise inferences about resident risk. Fourth, **distributional incidence** is understudied: scholarship and employment benefits diffuse broadly, while harms concentrate in vulnerable subgroups; future work should quantify who bears what share of costs. Finally, rapid growth in **sports betting and online gambling** is reshaping substitution patterns; continuous monitoring is required to anticipate how digital access

interacts with brick-and-mortar casinos in both fiscal and health domains (Humphreys, 2021; Nedved and Ferreira Neto, 2024).

4.7.1 Conclusion

Taken together, the literature suggests that commercial casino gaming is neither a blunt scourge nor a simple boon. It is a complex **policy domain** whose social footprint depends on product mix, visitor exposure, place management, and the quality of prevention and treatment systems that surround it. The most consistent relationships appear in **economically motivated crime**, especially over multi-year horizons, and in **market substitution** that complicates fiscal expectations. In youth and education, casinos can fund opportunities even as they raise risk for subsets of adolescents and college students. Among older adults and veterans, identifiable risk profiles argue for low-friction screening and integrated care. Mental health associations are reciprocal, calling for service integration rather than silos. Across all domains, **measurement matters**: visitor-adjusted denominators and multi-year monitoring can reconcile raw incident growth with stable or falling per-capita risk.

For policymakers and practitioners, the imperative is to design for **net social benefit**: build better baselines (including visitor metrics), plan for long-run evaluation, regulate high-risk product features, manage nightlife environments, target prevention to vulnerable groups, and model fiscal interdependencies realistically. Done well, this approach recognizes casinos' entertainment and revenue potential while minimizing avoidable harms through evidence-led policy and practice.

5 Review of Social Impact Indicators Proposed for Consideration

Across the narratives and matrices, the project proposes a multi-domain indicator framework that captures both near-field exposure effects (e.g., crime in blocks and tracts proximate to casino sites) and area-wide spillovers (e.g., county or metro changes in public health, youth behavior, and market structure). Our approach emphasizes:

- aligning theory with measurement (Routine Activities Theory, Social Disorganization Theory, substitution vs. complementarity in gambling markets, and the like);
- paying close attention to spatial/temporal resolution so effects are not averaged away; and,
- foregrounding feasible, public (or low-cost) data sources for a North Texas policy assessment.

5.1 Crime and Public Safety

5.1.1 Indicator A—Street Property Crime (Robbery, Burglary, Larceny, Motor Vehicle Theft)

Definition and construct: Incidents of robbery, burglary/breaking and entering, theft from building, theft from motor vehicle, all other larceny, and motor vehicle theft, generally coded via the National Incident-based Reporting System (NIBRS)/Uniform Crime Reporting (UCR) systems. This bundle operationalizes Routine Activities Theory’s prediction that high-volume visitor environments create crime “hotspots” by concentrating suitable targets.

Unit of analysis: Preferably block level (or tract) for primary analysis; county level for cross-jurisdictional panels.

Spatial coverage: U.S. coverage via NIBRS; local analyses around candidate casino sites (e.g., in North Texas) should include distance bands to test spatial decay.

Temporal coverage: Monthly series recommended to capture seasonality/tourism cycles; annual county series used when monthly is unavailable.

Source and access: FBI NIBRS (public via the Inter-university Consortium for Political Science Research (ICPSR) and other state portals); local police open-data portals where available.

Construction notes: Geocode incidents; create buffers (e.g., 0–0.5 mi, 0.5–1 mi, 1–3 mi) around casino addresses; normalize by population-at-risk proxies (resident population + visitors).

Key caveats: County-level aggregation can obscure hotspot effects; must control for visitor volume and policing to avoid conflating incidence with exposure and enforcement.

Hypothesized relationship: Increase in near-field property crime after opening; effect decays with distance; violent-crime effects are less consistent.

Policy relevance: Supports targeted situational crime prevention, perimeter patrols, parking-lot security, and coordinated policing in adjacent blocks.

5.1.2 Indicator B—Violent Crime (Aggravated/Simple Assault, Robbery counted above, Kidnapping/Abduction)

Definition and construct: NIBRS violent offenses, with special attention to assaults and kidnapping/abduction due to venue-related conflicts and potential trafficking linkages.

Unit of analysis: Block/tract near casino; county for jurisdictional comparisons.

Spatial coverage: Same as above (NIBRS with geocoding where feasible).

Temporal coverage: Monthly preferred.

Source and access: FBI NIBRS; local open-source data.

Construction notes: Separate on-premises vs. adjacent-area incidents when possible; control for visitors and law-enforcement deployment.

Key caveats: Reporting and classification practices vary; need to model policing intensity and alcohol availability.

Hypothesized relationship: Mixed; assaults may rise locally; kidnapping/abduction may increase in connection with trafficking or extortion contexts.

Policy relevance: Guides zoning, alcohol-service management, and event-driven staffing by police.

5.1.3 Indicator C — Sexual Offenses (Rape, Sexual Assault, Statutory Rape)

Definition and construct: NIBRS sexual offense categories sensitive to guardianship reductions in nightlife settings.

Unit of analysis: Block/tract; county for broader trends.

Spatial coverage: NIBRS; venue-adjacent focus.

Temporal coverage: Monthly preferred; special attention to weekends and events.

Source and access: FBI NIBRS.

Construction notes: Consider on-site vs. off-site classification and alcohol-sales hours.

Key caveats: Under-reporting is a major concern; interpret level differences cautiously.

Hypothesized relationship: Potential increase in venue-adjacent sex offenses via reduced guardianship and intoxication.

Policy relevance: Training for security staff; environmental design (lighting, CCTV), ride share partnerships, and survivor-service coordination.

5.1.4 Indicator D — Human Trafficking (Commercial Sex Trafficking)

Definition and construct: Cases flagged under federal/state trafficking codes, with casinos/hotel complexes serving as “demand hubs.”

Unit of analysis: County/year (given current data realities). Spatial coverage: National FBI trafficking datasets; local task-force data when available.

Temporal coverage: Annual; may be supplemented with monthly intel/event logs where available.

Source and access: FBI trafficking datasets; state task forces; NGO reports.

Construction notes: Expect low base rates and under-detection; consider tip-line and case-management co-measures.

Key caveats: Detection intensity and law-enforcement focus drive variation; interpret as signal rather than complete prevalence.

Hypothesized relationship: Increase post-opening at county level, but effects highly sensitive to surveillance.

Policy relevance: Justifies coordinated operations among police, hotel security, and service providers; informs training and licensing requirements.

5.1.5 Indicator E— White-Collar and Financial Crime (Fraud, Embezzlement, Bribery, Cargo Theft proxies)

Definition and construct: Financial/white-collar offenses linked to (a) opportunity structure (cash/credit volume, anonymity) and (b) problem gambling-induced offending.

Unit of analysis: County/year recommended (rare events).

Spatial coverage: FBI NIBRS/UCR categories where available.

Temporal coverage: Annual; can be semi-annual if data permit.

Source and access: FBI financial crime categories; state AG reports.

Construction notes: Consider separating employee-perpetrated vs. patron-perpetrated offenses where discoverable.

Key caveats: Detection/reporting heterogeneity; multi-jurisdictional cases may not resolve to the casino county.

Hypothesized relationship: Increase post-opening at the county level; magnitude depends on compliance regimes and surveillance.

Policy relevance: Supports internal controls, cashier cage audits, AML protocols, and regulator capacity planning.

5.1.6 Indicator F — Law-Enforcement Capacity (Officers and Civilian Staff)

Definition and construct: Counts of sworn officers and civilian staff in local agencies as a control and cost indicator.

Unit of analysis: County (or law enforcement agency).

Spatial coverage: FBI Law Enforcement Employment datasets.

Temporal coverage: Annual.

Source and access: FBI LEEP-style publications/ICPSR.

Construction notes: Match to crime series to avoid omitted-variable bias; can also proxy capital/soft costs of policing.

Key caveats: Jurisdictional re-organizations confound time series.

Hypothesized relationship: Increase in staffing accompanying casino opening; may mediate apparent crime trends.

Policy relevance: Budget planning, interlocal agreements, and cost-sharing debates.

5.2 Substance Use, Alcohol-Related Disorder, and Public Order

5.2.1 Indicator G — DUI Incidents

Definition and construct: Driving under the influence incidents/citations; salient because of 24/7 alcohol service typical of casino venues.

Unit of analysis: County/month preferred; block-level near casino if crash reports have coordinates.

Spatial coverage: State crash databases; NIBRS DUI offenses.

Temporal coverage: Monthly is ideal for weekend/event effects.

Source and access: State DOT crash files; FBI NIBRS.

Construction notes: Include alcohol-related fatal crashes where available; match to hotel occupancy and visitor arrivals.

Key caveats: Variation in testing/reporting; must adjust for vehicle miles traveled (VMT).

Hypothesized relationship: Increase in DUI and alcohol-involved crashes post-opening.

Policy relevance: Ride share partnerships, late-night transit/patrols, server training, and targeted sobriety checkpoints.

5.2.2 Indicator H — Drug/Nicotine Violations

Definition and construct: Arrests or citations for illicit drugs and (where tracked) nicotine violations among adults/youth.

Unit of analysis: County/month; school-district where available (for youth).

Spatial coverage: NIBRS; school discipline datasets if available.

Temporal coverage: Monthly preferred.

Source and access: FBI NIBRS; ICPSR for county-level UIBRS variants.

Construction notes: Distinguish possession vs. distribution; control for police effort.

Key caveats: Enforcement sensitivity; interpret trends as mixture of use and policing priorities.

Hypothesized relationship: Increase in drug offenses in casino counties; proximity gradient expected.

Policy relevance: Informs on-site security, harm-reduction partnerships, and local diversion programming.

5.3 Youth Outcomes and Higher Education

5.3.1 Indicator I — Youth Risk Behaviors (Alcohol, Tobacco, Illicit Drugs, Suicidality)

Definition and construct: YRBS-based prevalence among high-school students of current alcohol use, tobacco use, illicit drug use, and suicidality (ideation/attempt).

Unit of analysis: County (where state authorizes county estimates) or local education agency; biennial surveys.

Spatial coverage: YRBS jurisdiction-dependent; not all counties have estimates.

Temporal coverage: Biannually.

Source and access: CDC YRBS; state health/education departments.

Construction notes: Link to casino county status and opening dates; difference-in-differences design recommended.

Key caveats: Survey representativeness and small-N in sub-areas; privacy suppression rules.

Hypothesized relationship: Increase in youth risky behaviors post-opening, mediated by parental supervision and community norms (social disorganization pathways).

Policy relevance: Justifies school-community prevention and family-support interventions in casino-adjacent areas.

5.3.2 Indicator J — Juvenile Justice Petitions/Non-Petitions

Definition and construct: Counts of juvenile court petitions and non-petition case dispositions, used to proxy delinquency or system contact.

Unit of analysis: County/year via EZACO (state-compiled).

Spatial coverage: Participating states; check availability for Texas and neighbors.

Temporal coverage: Annual.

Source and access: EZACO; state courts.

Construction notes: Use population-standardized rates; model policy changes that affect diversion.

Key caveats: Legal/policy shifts (e.g., diversion expansion) can move counts independent of true behavior.

Hypothesized relationship: Increase in petitioned/non-petition cases if casino presence contributes to disorganization or parental strain.

Policy relevance: Targeted youth services and evening/weekend programming near employment centers with non-standard shifts.

5.3.3 Indicator K — Academic Outcomes (Attendance, Performance) / Higher-Ed Linkages

Definition and construct: Student attendance rates, standardized test outcomes, and transition to higher education; evidence base links youth gambling exposure with diminished academic performance and well-being.

Unit of analysis: School district or county.

Spatial coverage: State education data portals; literature matrix documents associations and mechanisms.

Temporal coverage: Annual school years.

Source and access: State education agencies; National Center for Educational Statistics.

Construction notes: Link to casino exposure using distance to property and opening cohorts; adjust for poverty and school quality to avoid confounding.

Key caveats: Many studies are correlational; access to student-level restricted data is often limited.

Hypothesized relationship: Risk of lower academic performance and higher absenteeism where family stress/problem gambling are salient; but some tribal revenue contexts show positive education investment effects — expect heterogeneous impacts.

Policy relevance: School support services; scholarship targeting where gaming revenue is used for education; early identification of at-risk youth.

5.4 Special Populations (Older Adults and Veterans)

5.4.1 Indicator L — Problem Gambling and Service Contact among Older Adults

Definition and construct: Rates of screenings, helpline contacts, or treatment admissions among older adults; casinos can provide social outlets but may elevate risk for fixed-income patrons.

Unit of analysis: County/year (service system data) or survey estimates.

Spatial coverage: Depends on state mental-health and problem-gambling reporting systems.

Temporal coverage: Annual; quarterly if helpline data available.

Source and access: State problem-gambling councils, helplines, and behavioral health agencies.

Construction notes: Normalize by 65+ population; integrate casino proximity.

Key caveats: Self-selection and stigma; helpline data reflect awareness and outreach.

Hypothesized relationship: Potential increase in contacts/screens after opening; magnitude driven by outreach and availability of venues.

Policy relevance: Senior-center programming, transportation partnerships, and targeted screening in primary care.

5.4.2 Indicator M — Problem Gambling and Service Contact among Veterans

Definition and construct: Helpline/treatment encounters and screening-positive rates among veterans, flagged as a special population for monitoring in subsequent phases.

Unit of analysis: County/year; VA facility catchment area where possible.

Spatial coverage: State councils, VA facilities.

Temporal coverage: Annual/quarterly.

Source and access: VA, state behavioral health, problem-gambling providers.

Construction notes: Requires data-sharing agreements; confidentiality rules apply.

Key caveats: Under-reporting and care-seeking stigma.

Hypothesized relationship: Increased service contacts in casino counties contingent on outreach and screening policies.

Policy relevance: VA-community partnerships; screening in primary/behavioral care; targeted prevention messaging.

5.5 Market Structure, Substitution, and Fiscal Interdependence

5.5.1 Indicator N — Lottery Sales per Capita

Definition and construct: Dollar sales per capita by county/ZIP to test substitution when casinos enter a market.

Unit of analysis: County (ZIP where available).

Spatial coverage: State lottery reporting; some states provide ZIP-level series.

Temporal coverage: Monthly/quarterly/annual depending on state.

Source and access: State gaming/lottery commissions (e.g., Maryland cited in examples).

Construction notes: Link to casino proximity; include controls for income and unemployment.

Key caveats: Product mix changes and promotions can confound trends.

Hypothesized relationship: Decline in lottery sales near new casinos (substitution).

Policy relevance: Forecasting state fiscal shifts; anticipating distributional effects across counties.

5.5.2 Indicator O — Sports Betting Activity (Handle/Revenue)

Definition and construct: Total handle (wagers) and operator revenue by county/market. Tests whether sports betting cannibalizes or complements casino slots/tables.

Unit of analysis: County/metro where reportable.

Spatial coverage: State regulatory reports; aggregator statistics.

Temporal coverage: Monthly/quarterly.

Source and access: State gaming regulators; third-party dashboards.

Construction notes: Align with casino opening/launch dates; instrumented or staggered DiD designs recommended.

Key caveats: Product rollouts and mobile-only markets complicate spatial attribution.

Hypothesized relationship: Mixed—complementarity in some states (slots/tables rise with sportsbook), cannibalization of VLTs in others.

Policy relevance: Guides regulatory sequencing (sportsbooks inside/outside casinos) and tax-rate design.

5.5.3 Indicator P — Casino Revenue and Admissions

Definition and construct: Property or market-level revenue and admissions to capture competitive impacts of nearby Video Gaming Terminals or new casinos.

Unit of analysis: Property/market; county proxy where only tax receipts available.

Spatial coverage: State regulator reports; annual financials where public.

Temporal coverage: Monthly/annual.

Source and access: State gaming boards; FOIA if needed.

Construction notes: Model distance bands between properties; account for entry timing and capacity expansions.

Key caveats: Regulatory changes (tax rates, smoking bans) and macro shocks (recessions) can dominate trends.

Hypothesized relationship: Cannibalization within tight radii; complementarity in destination models with hospitality bundles.

Policy relevance: Licensing, location strategy, and tax-revenue forecasting.

5.5.4 Indicator Q — Online-Offline Complementarity (Search/App Proxies)

Definition and construct: Volume of gambling-app downloads/searches scaled by total app/search volume to proxy interest; paired with offline casino traffic.

Unit of analysis: County/metro (IP-mapped).

Spatial coverage: Third-party analytics platforms or Google Trends.

Temporal coverage: Monthly/quarterly.

Source and access: SensorTower/SimilarWeb (subscription); Google Trends (public).

Construction notes: Normalize across platforms; treat as correlates rather than outcomes.

Key caveats: Attribution challenges; device-level noise.

Hypothesized relationship: Complementarity—online engagement moves with offline activity.

Policy relevance: Marketing spillovers and problem-gambling surveillance signal.

5.6 Tourism, Place Management, and Comparative Destinations

5.6.1 Indicator R — Visitor Arrivals

Definition and construct: Total monthly visitor counts for the county/city—key control for population-at-risk in crime models and as a direct tourism outcome.

Unit of analysis: County/city.

Spatial coverage: Convention and Visitors Bureaus; airport/attraction counts.

Temporal coverage: Monthly.

Source access access: CVB administrative data; sometimes fee-based; partial public dashboards.

Construction notes: Align with hotel occupancy; create seasonality controls and interaction terms with policing.

Key caveats: Counting methods vary (unique visitors vs. attendances).

Hypothesized relationship: Increase post-opening for destination models; more muted where casinos are local convenience venues.

Policy relevance: Justifies infrastructure and public-safety resourcing tied to tourism cycles.

5.6.2 Indicator S — Hotel Occupancy Rate / Average Daily Rate

Definition and construct: Monthly occupancy and possibly Average Daily Rate (ADR) as tourism intensity metrics.

Unit of analysis: County/market.

Spatial coverage: Smith Travel Research (STR) and CVB reports (often subscription).

Temporal coverage: Monthly.

Source and access: STR, CVB dashboards.

Construction notes: Use as control and as outcome; integrate with crime per visitor denominators.

Key caveats: STR coverage varies by participation; confidentiality aggregation.

Hypothesized relationship: Increase in occupancy for casino-resort models; neutral for limited-amenity properties.

Policy relevance: Guides lodging tax projections and hotel policing/EMS planning.

5.7 Health Harms and Harm Reduction

5.7.1 Indicator T — Adult Mental-Health Screens: Severe Depression (PHQ-9 20–27)

Definition and construct: Share and rate of severe depression among on-line PHQ-9 screeners, using Mental Health America’s (MHA) large screening dataset. Metrics include total screens, severe-depression count, per-100k rates (state/county), and percent at risk among screeners.

Unit of analysis: County and state.

Spatial coverage: Nationwide where MHA has sufficient ZIP→county assignment; counties with <5 “positive” results are excluded.

Temporal coverage: Multi-year with annual aggregation (per MHA’s public Tableau views).

Source and access: Mental Health America public Tableau data; county- and state-level extracts available.

Construction notes: MHA assigns ZIPs to counties by majority area; county population built by summing ZIP populations; normalize to per-100k rates and compute percent severe among screeners.

Key caveats: Non-probability sample of help-seeking screeners; not a general-population prevalence measure; sensitive to outreach and awareness.

Hypothesized relationship: Possible increase in severe-depression risk indicators if casinos exacerbate financial stress or problem gambling; findings

mixed in Phase 1 review, so consider heterogeneity and lagged effects.

Policy relevance: Early warning for service demand; helps target behavioral-health resources and problem-gambling screening.

5.7.2 Indicator U — Alcohol-Involved Traffic Fatalities / Hospital Encounters

Definition and construct: Rates of alcohol-involved crashes and ED/hospital encounters; cited literature shows elevated alcohol-related fatal traffic accidents in casino counties.

Unit of analysis: County/month (crashes); hospital service area (encounters).

Spatial coverage: State DOT crash files; hospital discharge datasets (restricted).

Temporal coverage: Monthly (crashes); quarterly/annual (hospital).

Source and access: State DOT; state hospital associations.

Construction notes: Control for visitors, weekend effects, and policing.

Key caveats: Toxicology practices and ICD coding variation.

Hypothesized relationship: Increase post-opening; proximity gradient tied to late-night/early-morning hours.

Policy relevance: Grounds investment in sobriety checkpoints, transport alternatives, and EMS coverage.

5.7.3 Indicator V — Family Stress and Child Well-Being Proxies

Definition and construct: Qualitative/quantitative signals of family stress, child emotional/behavioral outcomes, and intergenerational harms in households affected by gambling.

Unit of analysis: County/district (using available survey/administrative proxies).

Spatial coverage: Literature indicates varied contexts, including the U.S., Australia, and tribal communities; use local proxies as available.

Temporal coverage: Annual (administrative); periodic (surveys).

Source and access: Child-welfare hotline calls.

Key caveats: Many sources are associational; careful causal designs are needed for local inference.

Hypothesized relationship: Potential increase in stress-linked harms; but revenue-sharing contexts can offset via education/income supports (heterogeneous).

Policy relevance: Informs family support services, problem-gambling prevention, and responsible gaming strategies.

6 Next Steps

Our review of the extant literature in the targeted areas of focus (crime and public safety, youth and higher education, mental, behavioral, and overall health, and economic and market considerations) has guided our nomination of candidate indicators for modeling the social impact of legalized commercial casino gaming in North Texas. Our proposed methodological framework, due to its robust synthetic design, requires that our indicator data meet a higher quality standard. As noted at the beginning of this paper, our methods will require that we use data that are:

1. measured consistently across the geographies we're studying,
2. measured consistently from several years prior to casino introduction to several years after introduction, and
3. available at sufficient spatial granularity to identify effects.

Because of resource and time constraints, our team will pare down the working list above to a select number of indicators in each key area. This is the data we will use to assess the impact of legalized commercial casino gaming in our study geographies, and those findings will be applied through synthetic controls to estimate the effects of legalization in North Texas.

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7 APPENDIX

A1 Guide to Evaluating Papers

1 Why this guide?

Debates on casino legalization often cite research claiming that:

- “Casinos are associated with higher smoking rates.”
- “Casinos are correlated with child obesity.”
- “Communities with casinos have more crime / less employment / worse health.”

These statements sound causal (casinos made this happen), but many come from studies that only measure **correlations**, not the actual **causal impact** of casinos. More rigorous experimental or quasi-experimental studies often find much smaller effects, or no effect at all, suggesting for example:

Casinos do not necessarily *create* more smokers; instead, smokers may be more likely to go to casinos.

This guide is meant to help quickly distinguish:

- **Descriptive studies** that show patterns (“who goes where”), from
- **Causal studies** that estimate what casinos actually *do*.

The focus is on casino legalization, but the concepts apply to many other policy areas.

2 First question: correlation or causation?

When you see a headline result, the first question should be:

Does this study show that casinos *cause* the outcome, or only that they occur together?

2.1 Warning signs of “just correlation”

- Language like: “*associated with*”, “*linked to*”, “*correlated with*”, “*in counties with casinos we observe...*”.
- One-time snapshot: comparing places with casinos to places without casinos at a *single point in time*, without tracking changes over time.
- No clear explanation of *how* casino legalization would cause the outcome.

2.2 Signs of stronger causal evidence

- The study explicitly uses a recognized causal design, such as:
 - A randomized experiment (rare in this area).
 - A natural experiment (e.g. staggered casino legalization across jurisdictions).
 - Difference-in-differences, regression discontinuity, or similar approaches.
- Language like: “*we estimate the impact of casino legalization on X by exploiting...*”, followed by a clear explanation of how the authors isolate the policy effect from other factors.

If you cannot tell how the study separates cause and effect, treat the findings as descriptive correlations, not policy-ready causal evidence.

3 Checklist: wording that signals stronger or weaker designs

The specific words authors use often tell you how seriously they have thought about causality. The table below is a simple reading aid.

3.1 A. Good signs in wording (things to look for)

These terms suggest the authors are explicitly thinking about causality and research design:

- **Exogeneity** (or “exogenous variation”):
 - Means the variation used to identify the effect (e.g. timing or location of casinos) is not driven by the outcome itself.
 - Good phrase: “*We exploit exogenous variation in casino openings due to a state-wide policy change...*”
- **Selection** (or “selection bias”, “self-selection”):
 - Means the authors recognize that people who go to casinos, or places that legalize casinos, may differ systematically from others.
 - Good phrase: “*Because casino visitors are likely to differ from non-visitors, we account for selection by...*”
- **Counterfactual**:
 - The counterfactual is what would have happened *without* casinos.
 - Good phrase: “*Our comparison group approximates the counterfactual trend in smoking in the absence of casino legalization.*”
- **Identification strategy**:

- Good papers explain their “identification strategy”—how they separate the casino effect from everything else happening at the same time.

3.2 B. Bad signs when these are missing

If a paper does *not* discuss exogeneity, selection, or counterfactuals, this is a strong signal that:

- The authors may be treating correlation as causation.
- They may not have adequately accounted for:
 - Why were casinos opened in particular places?
 - Why certain people choose to go to casinos.
 - What would have happened over time even without casinos (general trends).

In short: if the paper never addresses *exogeneity*, *selection*, or *counterfactuals*, its results are unlikely to be a reliable guide to causal effects for policy.

4 Who is being compared to whom?

For casino impacts, the main risk is **selection**: the people and places affected by casinos are not random.

Key questions:

1. Who is in the “casino group”?

- Are these people who *visit* casinos, or communities that *have* casinos?
- Frequent casino visitors may have been more likely to smoke or have health issues long before the casino visit.

2. Who is the comparison group?

- People who do not visit casinos?
- Similar communities without casinos?
- The entire population?

3. Were the groups similar *before* casinos opened?

- If casino communities were already different (e.g. poorer, more tourism, different age structure), simple comparisons will mix up pre-existing differences with casino effects.

If the casino and comparison groups were already different to begin with, simple correlations are likely to be misleading.

5 Why trends over time matter: a concrete example

A common mistake is to compare smoking rates *before and after* a casino opens in one location, without asking what would have happened there anyway.

Assume:

- A casino opened in 2005.
- We observe smoking rates in 2004 (before) and 2006 (after).
- Over this period, smoking is declining across the whole country due to national health campaigns, taxes, and changing habits.

5.1 Data from one casino county and one comparison county

Suppose the data look like this:

	Smoking in 2004	Smoking in 2006
Similar county without casino (control)	10%	8%
County with casino (treated)	12%	11%

5.2 What a naive reading might say

If we only look at the casino county:

- Smoking fell from 12% to 11%, a decrease of 1 percentage point.

A naive conclusion would be:

“After the casino opened, smoking fell by 1 percentage point; therefore, the casino reduced smoking by 1 percentage point.”

This is **incorrect**, because it ignores the broader trend: smoking is falling everywhere, not just where casinos open.

5.3 Using trends and a difference-in-differences logic

We should ask: what was happening in *similar* places without casinos?

- In the non-casino (control) county, smoking fell from 10% to 8%: a decline of 2 percentage points.
- This 2-point decline reflects the general downward trend in smoking.

If the casino county followed the same underlying trend (without a casino), we would *expect* smoking there to fall by 2 percentage points as well. Starting from 12% in 2004, the expected rate in 2006 without a casino would be:

$$12\% - 2\% = 10\%.$$

Instead, we observe 11%. So, relative to the expected trend, smoking is:

$$11\% - 10\% = 1\% \text{ higher than it would have been without the casino.}$$

5.4 Difference-in-differences in one line

This logic is the intuition behind a **difference-in-differences** design:

$$\text{Effect of casino} = \left(\underbrace{11\% - 12\%}_{\text{change in casino county}} \right) - \left(\underbrace{8\% - 10\%}_{\text{change in control county}} \right) = (-1\%) - (-2\%) = +1\%.$$

So the best estimate is:

The casino *increased* smoking by 1 percentage point relative to what would have happened without it.

The key lesson: looking only at the treated location before and after a policy change *combines* the policy effect with whatever was happening in the background over time. A proper comparison to a similar control group is essential.

6 Typical pitfalls in “casino impact” studies

When you see claims like “casinos are associated with more smoking” or “casinos are associated with child obesity,” the following pitfalls are common.

6.1 1. Selection bias (who goes to casinos)

- Smokers, heavy drinkers, or people with other risk factors may be more inclined to visit casinos.
- A simple comparison of “casino visitors versus non-visitors” mostly tells you who chooses to go to casinos, not what casinos cause.

6.2 2. Location bias (where casinos are built)

- Casinos are often built in specific types of areas: tourist regions, economically struggling areas, or places with more permissive local regulations.
- If those areas already had higher smoking, obesity, or crime, we may incorrectly attribute these pre-existing conditions to the casinos.

6.3 3. Ignoring time trends

- Outcomes such as smoking, obesity, and employment follow broader national or regional trends.
- If a study examines only “after casinos opened” in the treated area, without a proper comparison group, it can misattribute general trends (like a national decline in smoking) to casino legalization.

6.4 4. Multiple outcomes and selective reporting

- If a study tests many outcomes, some will look “statistically significant” by chance.
- Good practice is to:
 - Pre-specify main outcomes.
 - Report results transparently, not only the most dramatic ones.

7 What stronger designs look like in this area

You will rarely see fully randomized experiments for casino policy, but quasi-experimental designs can still provide relatively strong causal evidence.

7.1 1. Difference-in-differences (DiD)

- Compares changes over time in areas that legalize casinos to changes in similar areas that do not.
- Good studies will:
 - Show that pre-legalization trends in outcomes were similar across treated and control areas.
 - Check robustness to alternative comparison groups and time windows.

7.2 2. Natural experiments and policy discontinuities

- Use features such as:
 - A law change affecting some jurisdictions but not others.
 - Distance to the nearest newly opened casino.
- The key idea is to find variation in casino exposure that is as close as possible to random.

7.3 3. Panel data with fixed effects

- Follows the same individuals or regions over time.
- Controls for time-invariant differences (e.g. long-standing cultural or economic differences between counties).
- Still needs careful handling of trends and other policies.

Overall, give more weight to:

Experimental or quasi-experimental designs with clear identification strategies

over one-time correlations or simple before/after comparisons in a single area.

8 A practical checklist for reading casino impact studies

When a study on casino legalization lands on your desk, you can use this simple checklist.

8.1 A. Basic facts

- What is the main **outcome**? (e.g. smoking, child obesity, employment, tax revenue, crime)
- What is the **treatment**? (casino legalization, casino openings, casino visitation)
- What are the **units**? (individuals, neighborhoods, counties, states)

8.2 B. Design and identification

- Is the study cross-sectional (one snapshot) or longitudinal (over time)?
- Does it use a recognized causal method (experiment, natural experiment, difference-in-differences, etc.)?
- Does it clearly explain the identification strategy, including:
 - Exogeneity of the variation used.
 - How it deals with selection.
 - What the counterfactual is and how the comparison group approximates it.

8.3 C. Confounders and controls

- Does the study control for obvious confounders (income, age, education, urban/rural status, etc.)?
- Does it show that key variables and trends were similar *before* the casino opened?
- Does it acknowledge limitations and remaining uncertainty?

8.4 D. Magnitude and robustness

- Are the estimated effects large enough to matter in practice, not just statistically?
- Are the results robust to reasonable alternative specifications?
- Are the authors cautious in their conclusions, or do they over-interpret small or fragile correlations?

9 Putting it together: how to weigh different kinds of evidence

In practice, you can classify studies into rough tiers:

- **Tier 1:** Strong causal designs (clean natural experiments, convincing difference-in-differences with good trend checks).
- **Tier 2:** Longitudinal studies with good controls but weaker causal identification.
- **Tier 3:** Simple correlations, one-time snapshots, or case studies.

Policy decisions with large consequences should be based primarily on Tier 1 (and sometimes Tier 2) evidence. Tier 3 evidence is best used to generate hypotheses or highlight areas where better research is needed, not to justify strong policy claims.

10 Key takeaway for policymakers

For casino legalization, a central distinction is:

Do casinos change people's behavior, or do they simply attract people and places with certain characteristics?

Many studies will show that casinos are *associated* with higher smoking, obesity, or other outcomes. That does not automatically mean casinos *cause* those outcomes.

To improve the quality of the debate about policy change, we recommend:

- Insisting on clarity about correlation versus causation.
- Asking whether exogeneity, selection, and counterfactuals are explicitly addressed.
- Giving more weight to studies with well-defined identification strategies and proper use of time trends and comparison groups.