

Follow the Money

Are Historic Infrastructure Investments Going to California Communities that Need Them Most?

HIGHLIGHTS

A Union of Concerned Scientists analysis, using environmental justice screening tools, suggests that federal infrastructure investments in California may fall short of Justice40 Initiative goals. Those goals seek to ensure that investments benefit communities that are historically underserved, underinvested in, and overburdened by pollution. The analysis is based on grant awards in California during the first two years of federal Bipartisan Infrastructure Law spending. With three years of this funding remaining, more federal investments must reach the communities that need it most. The United States needs a transparent, unified Justice40 tracking system that includes decisions about critical state-agency allocations to ensure equitable federal spending.

Technical Appendix

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The [Follow the Money](#) report and this Technical Appendix convey an assessment of Bipartisan Infrastructure Law (BIL) funding in California for Justice40 accountability. The research team selected a set of BIL investments that could reliably support a place-based analysis. The Technical Appendix provides details about the data, methods, and assumptions in the analysis to enable replication.

Data

Three data sources were key to this study. The first two sources are spatial. We used them to understand how the US government and California designate “Disadvantaged Communities” for purposes of driving public funds to historically underserved, underinvested in, and overburdened communities. The third source, USASpending.gov, is the official source of publicly available data on federal spending from the US Department of the Treasury. The report addresses a gap in available understanding of Justice40 and BIL implementation, demonstrating whether and how USASpending.gov data can be used to understand progress toward equitable funding goals.

Federal and State Definitions of Disadvantaged Communities

Given both federal and state goals for public investments in underserved and overburdened communities, this study compared awards’ places of performance to both definitions.

White House Climate and Economic Justice Screening Tool (CEJST)

The analysis relied on the White House Climate and Economic Justice Screening Tool version 1.0 (CEJST) to specify which areas contributed to meeting Justice40 goals. The CEJST methodology is explicit in its intention to reflect the Justice40 Initiative’s aims by ensuring federal resources flow to Disadvantaged Communities (Council on Environmental Quality 2022). Guidance to federal agencies names CEJST as the primary tool that federal agencies should use to identify Disadvantaged Communities (Young, Mallory, and Zaidi 2023; GAO 2024).

CEJST defines communities as “Disadvantaged” if they are in 2010 census tracts that:

- Meet the thresholds for at least one category of “burden.” A burden is an indicator from one of eight categories (climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, workforce development) combined with a socioeconomic indicator (usually at or above the 65th percentile for low income); or
- Are completely surrounded by Disadvantaged Communities and are at or above the 50th percentile for low income (adjacency tracts); or
- Are on land within the boundaries of federally recognized Tribes (Council on Environmental Quality 2022).

For the spatial analysis, we selected California census tracts where the field “SN_C” = 1, meaning that it was considered Disadvantaged by any one of these three criteria. In California,

six census tracts were assigned a Disadvantaged status because of the presence of federally recognized Tribal land. We downloaded the shapefile from the CEJST website (White House 2022a).

SB 535 Communities (SB 535)

We also analyzed BIL funding with respect to a California state-level definition of Disadvantaged Communities using the California Environmental Agency (CalEPA) “SB 535 Disadvantaged Communities 2022 (Census Tracts and Tribal Areas)” layer, which relies on CalEnviroScreen (CES) data (CalEPA 2022). Senate Bill 535 (SB 535) requires that a certain portion of the state’s California Climate Investments focus investments on Disadvantaged Communities (CalEPA 2023). We selected SB 535 communities for comparison with CEJST given that both screening tools are used to shape funding prioritization and allocation decisions.

CalEPA (2022) designates communities as Disadvantaged for purposes of SB 535 implementation if an area or census tract meets one of four criteria:

- CES 4.0 top 25 percent of overall scores;
- CES 4.0 highest 5 percent cumulative pollution burden scores (but no CES 4.0 overall scores due to missing data);
- CES 3.0 Disadvantaged Communities (identified in the 2017 Disadvantaged Communities designation, regardless of CES 4.0 score);
- Tribal areas (lands under the control of federally recognized Tribes).

The SB 535 Disadvantaged Communities (DAC) data we used already removed census tracts that do not meet the statute’s criteria. Thus, we used the entire dataset, including a separate shapefile for Tribal boundaries in the state. We downloaded the data from the SB 535 website (CalEPA 2022).

Comparison: Disadvantaged Census Tracts and Population

Given the different approaches used to designate Disadvantaged Communities between these two environmental justice screening tools, we summarized the total population included in the different sets of prioritized communities (Table 1). We calculated the population for the CEJST census tracts using the CalEnviroScreen 4.0 population data, which is what SB 535 uses. Both tool’s population estimates are from 2019 American Community Survey using 2010 Census Tract identifiers (Council on Environmental Quality 2022; CalEPA 2022).

Table 1. Comparing Census Tracts and Populations Designated as “Disadvantaged” by CEJST and SB 535

EJ Screening Tool	Number of “Disadvantaged” Census Tracts	Population (2019)	Percent of Statewide Population
CEJST 1.0	3,081	14,882,581	37.9%
SB 535	2,310	11,254,820	28.7%
California Total	8,035	39,283,497	100.0%

SOURCES: COUNCIL ON ENVIRONMENTAL QUALITY 2022; CALEPA 2022.

Comparison: Native American Land Area

Both CEJST and the SB 535 DAC tool include Tribal areas, with CEJST limited to federally recognized Tribes. Reliance on census tracts does not appropriately reflect Native American sovereignty or land tenure (Mullen, Whyte, and Holifield 2023), but we included these areas for consistency with both tools. We relied on each tool’s inclusion and designation of Tribal areas, but for transparency we show the original spatial data as reported by CEJST and SB 535, which cite different data sources and vintages (Table 2).

Table 2. Federally Recognized Tribal Boundaries Data Used in CEJST and SB 535

EJ Screening Tool	Dataset name	Date	Source	Notes
CEJST 1.0	Land Area Representation	2018	Provided by Bureau of Indian Affairs, US Department of the Interior	Depicts the exterior extent of a Federal Indian land area or lands of federally recognized Tribes, including Tribal Statistical Areas; this is “the BIA’s official geospatial representation of Federal Indian land areas” (Council on Environmental Quality 2022).
SB 535	Tribal Areas— American Indian Areas Related National Geodatabase of federally recognized Tribal boundaries in California	2021	US Census TIGER/Line Geodatabase	Includes federally recognized American Indian reservations and any off-reservation trust land in effect as of January 1, 2021. CalEPA removed two Tribal Designated Statistical Areas boundaries in California (CalEPA 2022).

SOURCES: COUNCIL ON ENVIRONMENTAL QUALITY 2022; CALEPA 2022.

Prime Awards with Bipartisan Infrastructure Law Funding

We undertook data processing on the prime awards using R Statistical Software (R Core Team 2024). We used USASpending.gov’s API to query the database and included the March 31, 2024, data download used in this analysis (Bureau of the Fiscal Service 2024a). In USASpending.gov, we relied on Disaster Emergency Fund (DEF) codes to query and track BIL infrastructure spending (Bureau of the Fiscal Service 2022). DEF codes are attributes used to track spending associated with certain legislation, typically for disasters and emergencies. Two DEF codes represent whether an award is funded with BIL spending: (Z) Infrastructure Investment and Jobs Act Emergency Public Law 117-58; and (1) Infrastructure Investment and Jobs Act Non-Emergency Public Law 117-58 (Infrastructure Investment and Jobs Act, Public Law No. 117-58, 2021). We limited the USASpending.gov API query to awards with funding from these two DEF codes.

We analyzed “prime awards” because they combine all transactions into a single high-level summary dollar amount (Bureau of the Fiscal Service 2024b). This avoids possible double-counting challenges associated with sub-awards. Each prime award in our analysis represents a “federal action obligation amount,” or a binding agreement or promise of spending by the US government. We limited the USASpending.gov API query to grant awards because of the difficulties associated with summarizing loans and because we expected most Justice40 priority communities would be eligible for and benefit most from grants.

Table 3. Federally Recognized Tribal Boundaries Data Used in CEJST and SB 535

Funding Type	Definition from USASpending.gov Data Dictionary
Block grant	“Federal funds provided to a state or local government that the recipient may use at its discretion.”
Formula grant	“Allocations of money to States or their subdivisions in accordance with distribution formulas prescribed by law or administrative regulation, for activities of a continuing nature not confined to a specific project”
Project grant	“The funding, for fixed or known periods, of specific projects. Project grants can include fellowships, scholarships, research grants, training grants, traineeships, experimental and demonstration grants, evaluation grants, planning grants, technical assistance grants, survey grants, and construction grants”
Cooperative agreement	“A legal instrument of financial assistance between a Federal awarding agency and a recipient or pass through entity and a subrecipient that, consistent with 31 USC 6302-6305: (a) Is used to enter into a relationship the principal purpose of which is to . . . carry out a public purpose authorized by law . . . (b) Is distinguished from a grant in that it provides for substantial involvement of the Federal awarding agency.”

SOURCE: BUREAU OF THE FISCAL SERVICE 2024B.

Award Funding Analyzed Is the Total Obligated Amount

The dataset includes different variables that communicate total funding amounts; we used the “total_obligated_amount” field, which is the total promised amount in the binding agreement from the federal agency. The total obligated amount for an award includes contributions from BIL, as well as any other funding the award may have (USASpending.gov Service Desk, email message to the website, November 27, 2023). Some awards are entirely funded by BIL; in other cases, the BIL provides only supplemental or partial funds.

Award Activity Dates

The BIL was passed in November 2021, so we limited the USASpending.gov API query to federal fiscal years (FFYs) 2022 and 2023 making our study period October 1, 2021, to September 30, 2023. Data retrieved included prime awards with any BIL supplemental funding, meaning that a handful of awards with binding agreements were reached prior to BIL’s enactment but received supplemental BIL funding during the award’s period of performance that aligned with our study period. Our analysis included the total obligated amount for these awards.

Geographic Scope

We limited the API query to awards with California as the place of performance. Place of performance is an award attribute “indicating where the predominant performance of the award will be accomplished” (Bureau of the Fiscal Service 2024b). Most of these also had a recipient (i.e., entity receiving the award) location in California; however, a few awards were granted to entities outside of California but “performed” within state boundaries. We excluded awards obtained by recipients with a California address but a non-California place of performance, as well as awards with a multistate or international scope. This means we focused on four types of geographic scope, based on the predominant “place of performance”:

- Statewide = “in multiple counties in the same US state or territory, up to and including the entire state or territory”.
- Countywide = “in multiple cities or Native American reservations/Tribal subdivisions in the same US county, up to and including the entire county”.
- Citywide = “in multiple ZIP codes in the same US city, Native American reservation, or Tribal subdivision, up to and including the entire city, reservation, or Tribal subdivision”.
- Single ZIP code = “a single US ZIP code” (Bureau of the Fiscal Service 2024b).

Award Recipient Types

The original dataset included 49 “business types” meant to categorize the type of entity receiving the awards. We combined these into eight recipient categories (Table 4).

Table 4. Business Types Recategorized Recipient Types

Category	Definition	Business Type Codes
State Government	State government entities	A
Local Government	Any form of local government including county, city, village, special district, school district, etc.	B; BC; BDX; C; CD; D; F; G
Nonprofit	Nonprofits with and without 501(c)(3) status (not higher education)	M; N
For Profit	Small business and other for-profit entities	Q; QR; R
Multiple	Applied if the business type code includes more than one type of entity	ADX; AF; BE; BEX; DE; FPR; FR; MQ; NQ; NR; OF; RN; RPF
Higher Education	Higher education institutions, including public and private colleges and universities	H; O; S; T; V
Tribal ¹ Recipient	Assigned to anything with at least one Tribal recipient; includes recipients with multiple entities if at least one is identified as Native American, Indigenous, Alaskan Native, and/or Native Hawaiian, or an Indian/Native American Tribal Designated Organization. This is also inclusive of federally recognized Tribal entities and others.	AKQ; I; IM; IQ; J; K KM; KMV; KN; KQ; L; MK; U
Other	Other; regional organization; individual; non-US entities	E; P; W; X

SOURCE: BUREAU OF THE FISCAL SERVICE 2024A.

Tribal Recipient Designation

The Biden Administration’s implementation guidance for the Justice40 Initiative explains that “regardless of whether a federally recognized Tribe has land, all federally recognized Tribal entities are considered Disadvantaged Communities for the purposes of the Justice40

¹ We use the terms *Tribe* and *Tribal* for consistency with the US government terminology in the data and to align with how the status of being a federally recognized Tribe has implications for access to US government funding.

Initiative” (Young, Mallory, and Zaidi 2023). Accordingly, in addition to the spatial analyses outlined below, we considered any BIL award with a “business type” we categorized as a “Tribal Recipient” as contributing to Justice 40 goals. This consideration aligns with definitions used by CEJST and SB 535 in their designations of Disadvantaged Communities. Doing so also acknowledges that not all sovereign nations within current US boundaries are federally recognized, nor do they all have access to ancestral land and territories.

To implement this, we created a Tribal Recipient category based on the “Business Type Code” variable, which shows the different award recipients based on “socio-economic status and organization/business areas” (Bureau of the Fiscal Service 2024b). Three codes identify Tribal Recipients uniquely (I, J, K); two more suggest potential Tribal relationships (L, U). Relying on these codes and descriptions from USASpending.gov, we assigned “Tribal Recipient” to any award where its Business Type included at least one Tribal recipient (I, J, or K) (Table 5).

Table 5. Business Types Recategorized as a Tribal Recipient

Code	Tribal Recipient- Business Type Descriptions
AKQ	State government; Indian/Native American tribal designated organization; for-profit organization (other than small business)
I	Indian/Native American Tribal government (federally recognized)
IM	Indian/Native American Tribal government (federally recognized); nonprofit with 501(c)(3) IRS status (other than an institution of higher education)
IQ	Indian/Native American Tribal government (federally recognized); for-profit organization (other than small business)
J	Indian/Native American Tribal government (other than federally recognized)
K	Indian/Native American Tribal designated organization
KM	Indian/Native American Tribal designated organization; nonprofit with 501(c)(3) IRS status (other than an institution of higher education)
KMV	Indian/Native American Tribal designated organization; nonprofit with 501(c)(3) IRS status (other than an institution of higher education); Alaska Native- and Native Hawaiian-serving institutions
KN	Indian/Native American Tribal designated organization; nonprofit without 501(c)(3) IRS status (other than an institution of higher education)
KQ	Indian/Native American Tribal designated organization; for-profit organization (other than small business)
L	public/Indian housing authority
MK	nonprofit with 501(c)(3) IRS status (other than an institution of higher education); Indian/Native American Tribal designated organization
U	Tribally controlled college or university

SOURCE: BUREAU OF THE FISCAL SERVICE 2024B.

Assigning Sectors

We based our sector analysis on Building a Better America: A Guidebook to the Bipartisan Infrastructure Law for State, Local, Tribal, and Territorial Governments, and Other Partners (White House 2022b). We used the updated 2024 BIL Guidebook data (White House 2024) to assign each award to a sector corresponding to the categories identified in the guidebook (Table 6).

Table 6. Award Sectors in the Analysis and Corresponding 2024 BIL Guidebook Categories

Award Sector	BIL Guidebook Category
Broadband	Broadband
Clean energy and power	Clean energy and power
Environmental remediation	Environmental remediation
Other transportation	Any non-assigned awards funded by the Department of Transportation, including, for example, airports and Federal Aviation Administration facilities; electric vehicles, buses and ferries; passenger and freight rail; ports and waterways
Public transportation	Public transportation
Resilience	Resilience
Roads, bridges, and major projects	Roads, bridges, and major projects
Safety	Safety
Water	Water
Other	Other

Because the data fields in USASpending.gov do not always precisely match the program titles in the 2024 BIL Guidebook data, we used a multi-method approach to assign awards to sectors. First, we assigned awards to sectors based on the program activities funding the awards. We disaggregated the field “program_activities_funding_this_award” into individual programs as needed, then lightly cleaned each program title to remove the leading program code, colon, and spaces before the program names. We iterated through the cleaned program names until the full, cleaned name matched a string in the 2024 BIL Guidebook program name, for which the award was assigned the category noted in the BIL Guidebook data. For example, the program activity “Fuels Management” in the awards dataset matched to two “resilience” sector programs in the awards dataset (“Wildfire Management—Fuels Management” and “Hazardous Fuels Management”) but not “Hazardous Fuels (Mechanical Thinning and Timber Harvesting; Precommercial Thinning in Young Growth).” Thus, we categorized this award as “resilience.”

If a listed program did not match one in the guidebook, we used two additional steps to assign the award a sector. If the Department of Transportation funded the award, we assigned it the

category “other transportation.” Noting that the awards matched to “other transportation” based on the funding agency means that this sector could include items that would otherwise match, for example, public transportation or safety. Then, we used a weighted keyword search to match the remaining awards to sectors based on key terms in the fields “program_activities_funding_this_award” and “cfda_numbers_and_titles.” The keywords and weights were selected based on our review of the BIL Guidebook and the award dataset (Table 7). An award was assigned to the sector for which it had the highest weight across all summed matching keywords.

The 2024 BIL Guidebook’s “Other” category includes a wide range of programs, from battery recycling to fish passages to good neighbor agreements (White House 2024). We used “Other” in this analysis as inclusive of the 2024 BIL Guidebook’s programs (per keywords used), but we also included awards that did not match via any of the above methods.

Table 7. Keywords and Associated Weights Used to Assign Awards to Sectors If the Award Did Not Match Directly to 2024 BIL Guidebook Program Titles

Sector	Keywords and Weights
Broadband	“broadband” = 1.0, “digital equity” = 1.0, “econnectivity” = 1.0
Clean Energy and Power	“energy” = 0.5, “power” = 0.25, “electricity” = 0.75, “solar” = 0.75, “national dam safety program” = 1.0, “weatherization” = 1.0
Environmental Remediation	“reclaiming” = 0.75, “orphaned well” = 1.0, “superfund” = 0.5, “brownfields” = 1.0
Other	“salmon” = 1.0, “marine debris program” = 1.0, “national fish passage” = 1.0, “good neighbor” = 1.0
Resilience	“wildfire” = 1.0, “wildland” = 1.0, “forest” = 0.25, “flood mitigation” = 1.0, “coastal” = 0.25, “coastline” = 0.25, “invasive” = 1.0, “fuels” = 1.0, “restoration” = 0.25, “conservation” = 0.25, “fire” = 1.0, “pollution prevention” = 1.0, “cybersecurity” = .25, “integrated ocean observing system” = 1.0, “emergency watershed protection program” = 1.0, “watershed and flood prevention” = 1.0, “forestry” = 0.5
Roads, Bridges and Major Projects (Transportation)	“highway” = 1.0, “street” = 0.25, “road” = 0.25
Water	“water” = 0.25, “drinking water” = 1.0, “watersmart” = 1.0, “clean water” = 1.0, “Indian water rights” = 1.0, “Western water” = 1.0, “drought” = 1.0

Excluding the Transportation Sector from the Analysis

Of the original 2,324 awards from the USASpending.gov query, we assigned 1,923 to the transportation sector per the above approach. This sector accounted for more than 88 percent of the total obligated spending in our dataset: \$16.07 billion. We excluded transportation

awards because state transportation agencies were already tracking and mapping their awards (CSTA 2023); also, transportation awards often cross multiple jurisdictions.

Assigning Geographies to Award Data

We used the “primary place of performance” fields to assign census-designated spatial geometries (i.e., polygons) to awards. Of the four primary place of performance scopes listed in the award dataset (statewide, countywide, citywide, single zip code), we focused on the three local scopes; we could not with confidence discern which regions benefited from statewide awards using publicly available datasets. Of the 253 local, non-transportation awards, we assigned 95 percent (n = 241) to county, city, zip code, and federally recognized American Indian area spatial geometries obtained from the 2020 decennial census using the Tigris package in R (Walker 2023). We assigned almost all of those awards a geometry based on exact concurrence between the listed place name and a census-designated geometry (92 percent, n = 221).

We manually matched 20 awards based on close inspection: 14 awards categorized as “citywide” were matched to the appropriate Tribal areas; 5 were matched to the appropriate city (i.e., San Buenaventura); and 1 countywide award incorrectly listed as having a citywide scope was manually assigned to the appropriate county. We excluded 12 awards with a local place of performance because the listed primary place of performance did not correspond to counties, cities, census-designated places, zip codes, or Tribal areas listed in the 2020 decennial census.

Spatial Analysis of Awards with CEJST and SB 535 Communities

With the mapped local awards (n = 241), we intersected the award’s place of performance polygon with the CEJST and SB 535 Disadvantaged Community polygons to calculate a percentage area intersection of the awards’ overall geometry with the Disadvantaged Community areas designated by each tool. Each award was then assigned to one of six categories based on the *Percent of Award Area in a Prioritized Community*:

- 100 percent or Tribal Recipient (includes award area overlap >99 percent) (see Table 8)
- >75 percent to 99 percent
- >50 to 75 percent
- >25 to 50 percent
- >0 to 25 percent
- 0 percent

Awards received by a Tribal Recipient based on UCS business type designations were assigned to the first category regardless of spatial intersection results; thus, a portion of the award funding in the first category was due to awards to Tribal Recipients. Table 8 shows which portion of the “100% or Tribal Recipient” funding was due to recipient type vs. due to spatial

analysis. Per the spatial analysis method described here, 40 awards to Tribal Recipients (\$43.41 million) would not have been categorized as contributing to Justice40 goals if we relied solely on spatial analysis.

Table 8. Awards Contributing to the \$141.90 million in “100% or Tribal Recipient” Category

Percent of Award Area in a CEJST Community	Award Count	Total Obligated Funding
Non-Tribal Recipient, 100% of Award Area	19	\$ 70,836,559
Tribal Recipients	55	\$ 71,060,756
<i>100% of Award Area</i>	15	\$ 27,647,948
<i>Less than 100% of Award Area</i>	40	\$ 43,412,808
Total Funding in CEJST Communities	74	\$ 141,897,316

The final data associated with this study is available at [Follow the Money: Are Historic Infrastructure Investments Going to California Communities that Need It Most? – UCS Research Data \(Harvard.edu\)](#).

Limitations

This project assessed the flow of BIL funding using publicly available datasets. Addressing the limitations of these datasets would open possibilities for further analysis of progress toward Justice40 goals. We highlight several limitations of an approach relying on existing publicly available data.

The sector assignments in this study approximate the federal categories under the BIL.

Program titles in the BIL Guidebook do not exactly match the USASpending.gov information on program activities funding the award, nor do they match the Catalog of Federal Domestic Assistance numbers and titles. Several awards list multiple funding programs, but they may not all be categorized in the same sector.

This study focused on non-transportation BIL funding. Transportation funding represents the largest portion of BIL funding to California so far, and the state already has a transportation project dashboard that tracks federal-and state-funded projects (CSTA 2023). We recommend a transportation-specific study to investigate the extent to which BIL-funded transportation projects in California align with Justice40 goals. Because we did not analyze transportation grants, we did not attempt to match all transportation categories precisely (e.g., airports; electric vehicles, buses, and ferries; ports). Anyone interacting with the processed data will see these awards grouped under the Transportation category.

Relying on CEJST—or any EJ screening tool—to identify whether a community is disadvantaged has inherent limitations to both the approach (Horgan et al. 2024) and the analysis (Schott and Whyte 2023). For example, researchers estimate that CEJST lacks values in one or more fields for 40 percent of its census tracts and warn that it may allow “for

communities who experience disadvantage to fall through the cracks and remain unrecognized for the sake of accessing Justice40 benefits” (Schott and Whyte 2023). Additionally, we demonstrate differences in area and population coverage depending on the EJ screening tool selected to identify priority communities for Justice40 implementation. While CEJST is a promoted tool for federal agencies, states may have their own preferred tools.

Important spending data may be missing in USASpending.gov. The dataset selected is technically the “official source of government spending data,” and it provides the most comprehensive, publicly available source of federal spending. Yet according to the Government Accountability Office, at least 49 different agencies did not report data for FY 2022, and there is a lack of clarity about who is required to report and who enforces reporting. Moreover, “agencies are ultimately responsible for deciding whether they should report to USASpending.gov” (GAO 2023a). There are also concerns about the level of disclosure about the dataset’s limitations and known issues of duplication within subaward data (GAO 2021; GAO 2023b). Furthermore, there are issues concerning the ability of federal agencies to apply DEF Codes that would otherwise allow explicit tracking of certain funding flows: “without agencies ensuring that they apply the appropriate DEF Codes, USASpending.gov users cannot reliably track spending” (GAO 2023b). However, this level of scrutiny has not yet been applied to BIL-related DEF codes.

At least one agency’s internal audit suggested that federal spending data in USASpending.gov was not complete or accurate for all of FY 2022, inclusive of the agency’s BIL funding (EPA OIG 2024a). The US EPA Office of Inspector General reported that underreporting of 2022 award-level data summed to \$1.2 billion, and “did not report any of its Infrastructure Investment and Jobs Act *outlays*” (EPA OIG 2024b). Fortunately, the EPA’s FY 22 data and future reporting processes were corrected by June 2023; both the problem and the solution were made public only in early 2024 (EPA OIG 2024b). **It is not clear what data may be missing from our analysis due to agency non-reporting to USASpending.gov and noncompliance with the 2014 Digital Accountability and Transparency Act.**

There may be inaccuracies in the “place of performance” field that we relied on for mapping awards, and that could lead to overcounting or undercounting issues. Previous work by the authors used the award recipient’s location field, noting that the recipient location and place of performance do not co-occur for many awards (Rempel, Fencl, and Community Water Center 2023). This analysis relies heavily on the “place of performance” field’s accurately reflecting where funding is flowing. Awards with a statewide scope in USASpending.gov data sometimes appear to be awarded to a county government, city, water agency, or Tribal Nation, suggesting that the place of performance could be refined with more manual coding.

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