CITY OF BLOOMINGTON
COMMISSION ON SUSTAINABILITY

MEETING PACKET

McCloskey Conference Room — City Hall
Tuesday, December 9, 2025, 6:00 p.m.

Or virtually at:
https://bloomington.zoom.us/j/84327085962?pwd=naI8LVmKZSoinPUHbXuw3h7oqMyi5g.1

Meeting ID: 843 2708 5962
Passcode: 034238

CONTENTS

1. **Agenda**
2. **Minutes: November 18, 2025**
3. **Climate Action Plan Implementation Update**
4. **Counting Miles: methods for estimating transportation-related GHG emissions**

CITY OF BLOOMINGTON
COMMISSION ON SUSTAINABILITY

NOTICE AND AGENDA
Tuesday, December 9, 2025, 6:00 p.m.
McCloskey Conference Room — City Hall

or virtually at
https://bloomington.zoom.us/j/84327085962?pwd=naI8LVmKZSoinPUHbXuw3h7oqMyi5g.1
Meeting ID: 843 2708 5962 │ Passcode: 034238
Note: Agenda item times are approximate and subject to change

Commission on Sustainability Members

Seat	Commissioner	Appointed By	Term
C- 1	Tara Dunderdale	City Council	1 Feb 2025 — 31 Jan 2027
C-2	Justin Vasel	City Council	1 Feb 2025 — 31 Jan 2027
C-3	Matt Austin	City Council	1 Feb 2024 – 31 Jan 2026
C-4	Zero Rose	City Council	1 Feb 2024 — 31 Jan 2026
C-5	Zach Ammerman	City Council	1 Feb 2024 — 31 Jan 2026
C-Ex	Dave Rollo	City Council	Appointed 10 Jan 2024
IU	Quentin Gilly	IU Office of Sustainability	Appointed 21 Nov 2024
MCC	Ross Carlson	Monroe County Commissioners	Appointed 24 Nov 2025
M-1	Alex Jorck	Mayor	1 Feb 2024 – 31 Jan 2026
M-2	Jami Scholl	Mayor	1 Feb 2024 – 31 Jan 2026
M-4	Chenghuai Xu	Mayor	1 Feb 2025 — 31 Jan 2027
M-5	Annalise Janke	Mayor	1 Feb 2024 – 31 Jan 2026
M-6	Diana Ogrodowski	Mayor	1 Feb 2025 — 31 Jan 2027

1. **Call to Order** **6:00 pm**

2. **Roll Call**

3. **Approval of Agenda**

4. **Approval of Minutes: November 18, 2025**

5. **Public Comment** **6:05 pm** (10m)
up to 3 minutes per person

6. **Reports from Commissioners** **6:15 pm** (25m)
    A. Chair (Justin Vasel) 6:15 pm (15m)
    B. Waste Management Working Group (Matt Austin) 6:30 pm (5m)
    C. Council Ex-Officio (Dave Rollo) 6:35 pm (5m)

7. **Discussion of Topics Not the Subject of Resolutions** **6:40 pm** (40m)
    A. Climate Action Plan Implementation Update (Shawn Miya) 6:40 pm (15m)
    B. Counting Miles: methods for estimating transportation-related 6:55 pm (15m)
       GHG emissions (Zach Ammerman)
    C. 2026 Priority Planning Process (Justin Vasel) 7:10 pm (10m)

8. **Resolutions for Second Reading and Discussion** **7:20 pm** (0m)
    N/A

9. **Resolutions for First Reading and Discussion** **7:20 pm** (0m)
    N/A

10.	**Report from Staff Liaison** (Shawn Miya)	**7:20 pm** (10m)
11.	**Member Announcements**	**7:30 pm** (0m)
12.	**New Business**	**7:30 pm** (0m)
13.	**Adjournment**	**by 7:30 pm**

Next Regular Meeting: January 10, 2026 at 6 pm

As a quorum of the Commission or its committees may be present, this gathering constitutes a meeting under the Indiana Open Door Law (I.C. § 5-14-1.5). For that reason, this statement provides notice that this meeting will occur and is open for the public to attend, observe, and record what transpires.

CITY OF BLOOMINGTON
COMMISSION ON SUSTAINABILITY

Minutes

Tuesday, November 18,2025 6:00pm

McCloskey Conference Room — City Hall

1. **Call to Order:** Chair called the meeting to order at 6:03 pm

2. **Roll Call:**

   Members

Commissioner	Present	Virtual	Note
Tara Dunderdale	☑	☐	
Justin Vasel	☑	☐	
Matt Austin	☑	☐	
Dave Rollo	☑	☐	
Quentin Gilly	☑	☐	Virtual to start. Arrived 6:10
Alex Jorck	☑	☐	6:05
Jami Scholl	☑	☐	
Annalise Janke	☑	☐	
Diana Ogrodowski	☑	☐	
Chenghuai Xu	☐	☐	
Zero Rose	☐	☐	
Evan Nix	☐	☐	
VACANT			
VACANT			

CITY OF BLOOMINGTON
COMMISSION ON SUSTAINABILITY

City Staff

Jolie Perry

Shawn Miya

Audrey Brittingham

3. **Approval of Agenda**

Diana moved to XXXXXXX. Dave seconded. Motion Passed ⌄ with a
 Roll Call ⌄ vote of 9-0-0.

4. **Approval of Minutes:** Jul 8, 2025 **and October 14, 2025**

   ACTION: Justin Moves to approve both sets of minutes. Matt seconded.

   With a Roll call vote of 8-0-1

5. **Public Comment**

   Ellee Spier member of the public - addressed the commission to express concern

   about the grant process for both the commission and ESD grants, they are

   complicated which is a barrier to access. Asks for reduction in complexity of

   process and improvement of the guidance documents to make it easier for the

   public to access them.

   Response from ESD staff - city administers a lot of grants and provides support.

6. **Reports from Commissioners**

A. Chair (Justin Vasel)- org chart is largely unchanged, some turnover expected at the end of terms in January and there is one candidate up for consideration by council.

No working session planned for December.

Annual report is in draft and can be reviewed at the December meeting. Grants will be discussed in the agenda item. The education and outreach grant was withdrawn because the city's legal department decided we can work directly with ESD to purchase supplies rather than through a grant.

Tara and Justin had a meeting with city legal mostly regarding grant, document management issues, documents being added to on-board, and potential on-board updates, and minutes. ESD expressed interest in taking the minutes which requires a bylaw amendment. There are other bylaw changes the commission has discussed. Open door law requires the documentation of the business decisions.

Chair feels it is best for the commission to own the documentation of full discussion and ESD can document business rules. The municipal code says that BCOS is free to conduct business via our bylaws and a change would require a documentation.

City staff says they would take the minutes and share with the secretary or vice-chair in their stead to provide input. City needs to

retain document ownership of the documentation of the meeting. City legal interprets the bylaws if the staff does the minutes and collaborates with the secretary would be in compliance with the minutes. Audrey, city legal staff agree. Matt disagreed with legal's interpretation of the bylaws.

Justin shared that the open door law requires a memorandum of business decisions, not a minutes documentation of meeting discussions. Proposed records requests could be addressed to the commission. Shawn said issue is continuity, Audrey said documents are required to be retained in perpetuity. Past timeliness issues were brought up of missing minutes. City wants to retain ownership of business documentation. Alex asked about shared google drive ownership, city staff said that is an IT security issue. Tara shared that city IT removed BCOS access in the past.

Justin asked for clarification on the difference between minutes and any other document like a draft resolution that has not yet been brought before the commission in a business meeting or working session. Main concern of the city is less public records and more timeliness and continuity between commissioners in the secretary or vice-chair role.

B. Waste Management Working Group (Matt Austin) - Richland farm, not located in monroe county but serves the county. They provide residential vegetative food waste composting.

C. Council Ex-Officio (Dave Rollo) - Commercial urban ag ordinance was voted down 8-1. Complicated ordinance, referred to things likes farms, set back, timing, education and employee component. Several reasons why it failed - evaluating and prioritizing those components was difficult. The employees and education component could be addressed in code that already covers indoor businesses. There was also significant blowback from people in the community to the ordinance. Suggested this commission and/or city council and planning commission have a co-deliberation session to talk about these points and work through some of the nuance. There is an existing urban ag ordinance that does allow growing.

Tomorrow the council is hearing an ordinance on SROs (single room occupancy) - similar to a boarding house. There are issues related to Tara asks if it was an adjustment of an existing category or a new category - Dave shared it is a new category - replacing the residential rooming house category. It is currently limited to 3 bedrooms in residential areas. It is effectively a pilot to see if it would work.

Matt asked what some of the community concerns are. Tara asked what is the difference with the multiple use student housing that currently allows renting of individual rooms in the meeting. State law prohibits rent caps but the idea is these would be low rent options but that is not enforceable. The hud standards limit the number of adults but not children. Dave suggested members of the commission attend the business meeting tomorrow where it is up for a second reading tomorrow. November 19th.

7. **Discussion of Topics Not the Subject of Resolutions**

   a. **Working Group Grant Application on "Community Food Waste Education & Network Development" (bokashi) - Matt Austin shared a back ground of the original grant idea to work with Taste of Bloomington to collect food waste, bring to Will detmer community garden, and conduct education sessions. The grant was rejected by ESD because of appearance of impropriety because of Matt's relationship to the ED of the non-profit facilitating the work. Justin shared a timeline of some of the communication - October 31 ESD asked for revisions which Justin made, project lead was transferred to Justin, and removed hourly wage costs, then Tara and Justin were called into a meeting with the city and told the appearance of impropriety was strong enough that legal won't**

approve it. Justin agreed those are valid concerns and onesthe commission is invested in. GardenQuest is the only organization in the city offering these services, however Matt is a commissioner creating potential conflict of interest. Justin shared the frustration of not knowing the requirements and the work put into a proposal that was known by the city would not be approved regardless of edits. Agenda item is here for discussion by the commission. Justin has also asked for updates from ESD for the SOP about the grants to make sure commissioners are putting together a proposal that is in compliance.

Quentin asked if there was documentation for all commissions on business rules or ethical guidelines. Justin shared that the city said training and onboarding for all commissioners is in the works and they hope to implement early next year but not clear on the timeline.

Matt asked why GardenQuest is different from other neighborhood grants that GardenQuest has been approved of. Feels like the city is not interested in the food waste reduction.

Shawn responded that for sustainable neighborhood grants were for neighbors to collect recyclable items, but that the food waste project included sale of items. Earlier proposal was not reviewed by legal because it was funded by the waste reduction district - legal and

office of the mayor reviewed the new version, and that it is inappropriate for the city to fund a project that includes sale of product. The city is ok with BCOS working with GardenQuest but Matt would have to step down before any funding could be provided. Justin brought up that if the issue was the sale of the buckets was the issue why that was not asked to be removed. Matt said he would consider stepping down to facilitate the work.

Jamie shared that some clearer guidelines or cases studies would be allowed or what would apply or what we would qualify for. Tara brought up that two time she asked city staff about allowable uses of funds and was told that ESD was not staffed to consider the grant ideas and that the department being understaffed is not the responsibility of the commission to do less work. Tara pointed out that commissioners are volunteers and have spent considerable personal time to develop grant proposals that ESD indicated they could not support regardless of when projects were brought to the commission. Diana clarified that it is a lack of good faith in the working relationship between ESD and the commissions.

Quentin asked if there is a workable solution - better clarified SOP or a precedent for sending to council for overriding. City shared the funds are executive branch funds so it wouldn't be a city council

override. Audrey shared that there is a legal statute and the appearance of impropriety issues, and admitted there are city responsibilities to better train and onboard commissioners. Audrey offered herself as a point of contact, Tara pointed out that we have been asked not to contact city staff directly. Audrey said we can email her and cc ESD staff for transparency.

8. **Resolutions for Second Reading and Discussion**

   a. **VOTE: Resolution 2025-04 to recommend incorporating "resilience" to the Commission's name**

ACTION: Alex moved to adopt resolution 2025-04. Jamie seconded.

Moved to discussion - Justin shared the amendment as a single amended document. Justin recommended procedural approach to adopt.

ACTION: Annalise moved to adopt amendment 1. Diana seconded.

Quentin asked if this was changing the scope of our mission. Justin clarified it is changing the name to reflect the existing scope.

There was a discussion to grammatical changes in the first whereas clause - no motion brought.
Discussion of adding additional scope of work to the last whereas clause - clause was not intended as a change in scope of work but a clarification of the commission's work for the public. No motion brought forward.
Quentin asked for clarification of the third whereas clause - Dave shared some historic context around the original creation of BCOS.
Attachment 1 contains draft ordinance text for the council that reflects the amended version with an additional whereas clause that adds reference to the passage of this amendment.
Justin moved to extend to 7:45 - no objections. Annalise had to leave following the vote but there is still quorum.

Action: moved to vote to adopt amendment 1.

Motion Passed ⌄ with a Roll Call ⌄ vote of 9-0-0.

Moved to discussion on the resolution. No amendment brought forward to change the name in the resolution.

Motion passes with a roll call vote of 8-0-0
Justin will send the resolution to the council president, city attorney, city clerk, and ESD.

9. **Resolutions for First Reading and Discussion**

    a. **n/a**

10. **Report from Staff Liaison**

    a. ESD applied for funding for market forming grant - the goal is to bring low cost capital for list of potential products. Coalition for green capital is the funding partner. ESD will provide free technical assistance to organizations to generate the list of projects. Partnering with organization called electrify indiana to do a public outreach campaign. Indiana Energy Independence Fund. Competing with 48 other cities for the investing. There are volunteer needs.

11. **Member Announcements**

    n/a

12. **New Business**

    n/a

13. **Adjournment**

    Matt motioned to adjourn. Jamie seconded.

    Adjourned at 7:42.

CITY OF BLOOMINGTON
COMMISSION ON SUSTAINABILITY

Next meeting December 9, 2025.

Climate Action Plan Implementation Update

City of Bloomington

Economic and Sustainable Development Department

Shawn Miya, MPH
Assistant Director of Sustainability

December 2025

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

citybloomington

2021 Climate Action Plan

Goals are to reduce Bloomington community greenhouse gas emissions 25% below 2018 emission levels by 2030 and **achieve carbon neutrality by 2050**

Climate action goals are divided into 8 Sectors:

- Transportation & Land Use

- Energy & Built Environment

- Waste Management

- Water & Wastewater

- Local Food & Agriculture

- Health and Safety

- Greenspace and Ecosystem

- Climate Economy

City of Bloomington
Climate Action Plan

March 2021

CITY OF **BLOOMINGTON**

CITY OF **BLOOMINGTON**
ECONOMIC AND SUSTAINABLE DEVELOPMENT
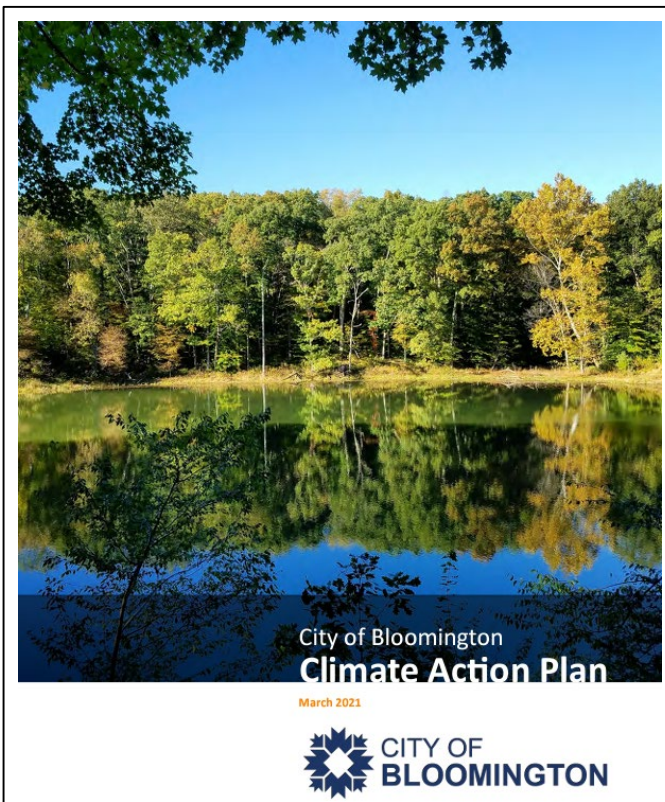
Renewable Energy

Energy & the Built Environment

Strategy EB 1-A: Increase solar on City facilities 20% by 2030.

Goal EB 1: Increase distributed renewable energy to 250,000

MWH of total generation annually by 2030.

3

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

38 Municipal Solar Power System Installations

- ★ Total production to date 2.26 Gigawatts

- ★ ESG Kiosk - publicly available solar production website

- ★ Veregy hired for solar Operation & Maintenance (O&M)

- ★ Monitors solar production with online dashboard called PowerTrack

- ★ Replaces any broken panels, inverters, and optimizers

- ★ Fixes wiring issues as needed

4

Solar, Energy Efficiency, and Lighting Program

★ Grants for small businesses and nonprofits

★ Solar system up to max $25,000

★ Battery Energy Storage System up to max $20,000 (nonprofits who provide essential services only)

★ Issued RFP in 2025

★ Contract with Solar Energy Solutions

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Solar, Energy Efficiency, and Lighting Program

Bloom Magazine

Since August 2024

Completed **11** solar installations

- ★ Bloom Magazine
- ★ The Juan Sells Realty Co.
- ★ Walnut Builders LLC
- ★ Associated Vitreoretinal & Uveitis Consultants
- ★ Royal South Toyota
- ★ Stone Belt
- ★ Bloomington Developmental Learning Center
- ★ First Presbyterian Church
- ★ Russian Recording LLC
- ★ Amethyst House
- ★ Community Kitchen Express

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Solar, Energy Efficiency, and Lighting Program

Walnut Builders, LLC

Approved an additional **6** installations to be completed by early 2026

★ Boys & Girls Club of Bloomington

★ The Language Conservancy

★ New Hope for Families

★ Walnut Builders, LLC

★ Stone Belt

★ Mother Hubbard's Cupboard - includes a battery energy storage system

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Low Income Housing Solar Grants

2024

★ Grant to Bloomington Housing Authority (BHA) to install solar on 6 buildings at Crestmont

2025

★ Anticipate grant agreement with BHA by end of 2025 for additional buildings at Crestmont and Early Learning Center to be completed in 2026

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT
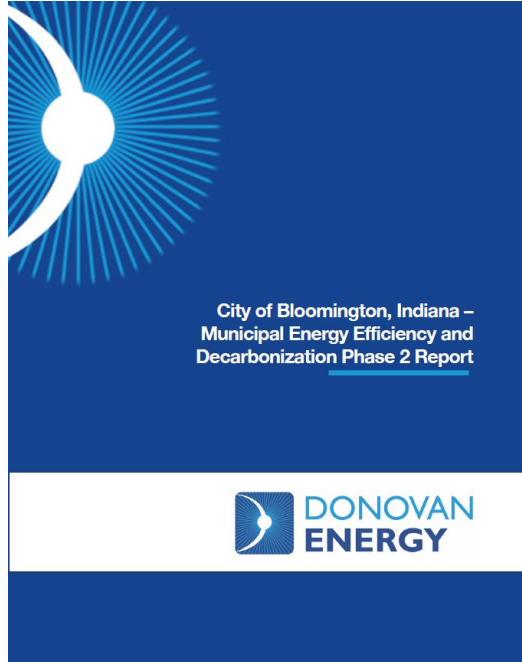
Energy Efficiency

Energy & the Built Environment

Goal EB 2 Increase energy efficiency citywide 16% for electricity and 12% for natural gas of 2018 values.

Goal EB 5:   Increase financing options for Energy Efficiency and Renewable Energy projects citywide.

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Donovan Energy: Municipal Energy Efficiency & Decarbonization Consulting Services

City of Bloomington, Indiana –
Municipal Energy Efficiency and
Decarbonization Phase 2 Report

DONOVAN ENERGY

★ 2025 Completed Energy Assessment Report

★ Evaluated 32 municipal buildings

★ Determined Energy Use Index (EUI) for each building across municipal portfolio

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Donovan Energy: Municipal Energy Efficiency & Decarbonization Services

Animal Shelter
Phase 3 Audit Report

May 2025

DONOVAN ENERGY   KLH ENGINEERS
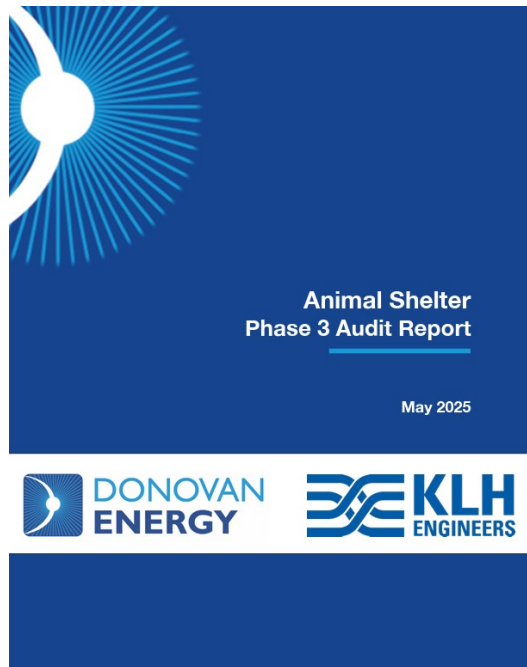
2025 Completed Level 2 ASHRAE Energy Audits at 9 buildings:

- ○ Animal Shelter
- ○ Sanitation Building
- ○ Fire Station #4
- ○ Fire Station #5
- ○ Allison Jukebox Community Center
- ○ Banneker Community Center
- ○ Switchyard Park Maintenance Building
- ○ Rose Hill Cemetery - Office & Maintenance Shop
- ○ Frank Southern Ice Rink

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Recommended Energy Conservation Measures (ECMs)

★ LED Lighting Upgrades ✅

★ Install High Volume Low Speed (HVLS) Fan ✅

★ Seal Roof Penetrations ✅

★ Replace Roof Insulation ✅

★ Replace Cooling Units and Furnaces with High Efficiency Heat Pumps

★ Install Rooftop Solar

★ Program Thermostats for Evening HVAC Setbacks in Unoccupied Buildings

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Recommended Energy Conservation Measures (ECMs)

LED Lighting Upgrades by City Staff
1. Allison Jukebox
2. Switchyard Park Maintenance Building

LED Lighting Upgrades by Contractor
1. Animal Shelter
2. Sanitation Building
3. Banneker Center
4. Fire Station 4
5. Fire Station 5

★ ESD issued RFP and selected Cassady Electric

★ Will be completed by end of 2025

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

US Dept. of Energy's Energy Efficiency and Conservation Block Grant (EECBG)

★ $141,000 voucher awarded

★ Approved City Hall LED lighting retrofit project

★ Project completed in 2025

★ Requesting reimbursement from DOE

★ 67% estimated annual energy savings

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Indiana Office of Energy Development
Empowering Energy Partnerships in Indiana Communities (EPIC) Grant

Indiana Theater

- ★ Awarded $508,000 grant with minimum 20% City match+ $213,316

- ★ Upgrade HVAC

- ★ Install solar system

- ★ Battery Energy Storage System (BESS)

- ★ DNR Historic Preservation Department Approval

- ★ BFD Required Structural Engineering Verification Complete

- ★ Schematic Design Phase

- ★ Estimated project completion October 2026

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Solar, **Energy Efficiency, and Lighting Program**

Nonprofits and small businesses can receive a free energy audit and $10,000 grant for energy efficiency projects:

★ LED lighting

★ heat pump HVAC system

★ ductwork replacement

★ insulation

★ windows

★ doors

★ cool roof (**new in 2025**)

SEEL PROGRAM

SOLAR- ENERGY EFFICIENCY- LIGHTING

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

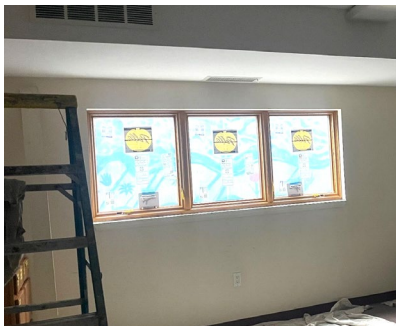# Solar, **Energy Efficiency, and Lighting Program**

WonderLab - cool roof membrane

Since August 2024

★ IFF completed **8 energy audits**
★ Grant recipients completed **8 upgrades:**
  ○ WonderLab
  ○ Tandem Community Birth Center & Postpartum House
  ○ Monroe County History Center
  ○ Timel LLC (Gallery Mortgage location)
  ○ Indiana Recovery Alliance
  ○ St. Thomas Lutheran Church
  ○ Unitarian Universalist Church
  ○ Covenant Christian Early Learning Place

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Solar, **Energy Efficiency, and Lighting Program**

Unitarian Universalist -
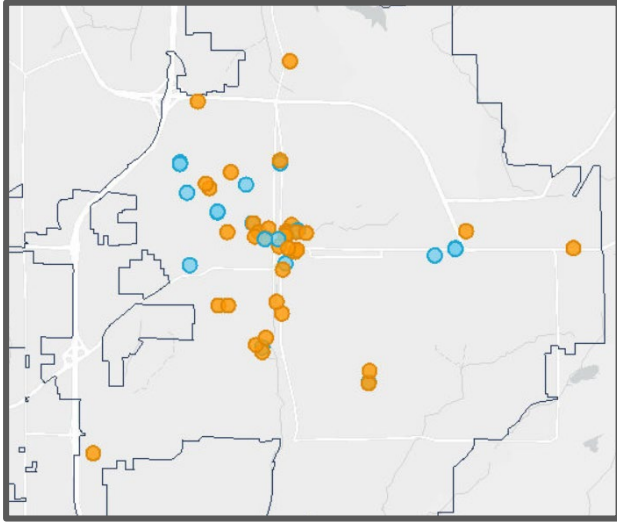EnergyStar windows

3 approved projects anticipated to be completed by early 2026

★ Bloomington Cooperative Living

★ Bethel AME Church

★ Second Baptist Church

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Solar, Energy Efficiency, and Lighting Program

★ Over $1M provided to date in SEEL grants

★ ITS helped to create a SEEL Grants Map available on City of Bloomington GeoHub

Bloomington Green Home Improvement Program

- ★ Rebates for Bloomington homeowners

- ★ Revised program in 2025, continuing in 2026

- ★ No longer requires loan with specific bank

- ★ Rebate covers 25% of the installation, or 40% for low income residents, up to a maximum amount depending on the project type

20

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Bloomington Green Home Improvement Program

★ Can be combined with utility rebates and federal tax credits

★ Equipment required to be EnergyStar certified or equivalent energy efficiency standard

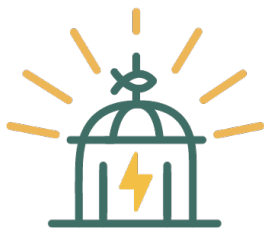★ Rebates approved for **34** recipients in 2025

CITY OF
BLOOMINGTON

Bloomington Green Home Improvement Program

2025 Approved Project Rebates:

★ 4 solar
★ 8 battery
★ 11 combined solar plus battery
★ 2 electric vehicle chargers + panel upgrades
★ 3 air conditioners
★ 2 heat pumps
★ 3 window projects
★ 1 exterior door

Bloomington Energy Works
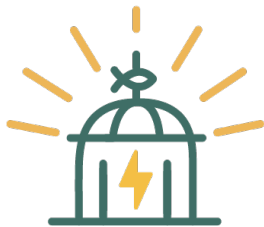
Energy That Works for Everyone

★ City's new program to promote energy efficiency and renewable energy across the city

★ Goal is to bring low cost capital to Bloomington for project implementation

★ Awarded $250,000 grant by the Coalition for Green Capital and ICLEI USA

★ Program partner Indiana Energy Independence Fund

23

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Bloomington Energy Works

Energy That Works for Everyone

★ Free energy audits for any commercial, manufacturing, and nonprofit building owner to develop list of energy efficiency and solar projects in need of funding worth at least $50M

★ Create a robust public private partnership plan due March 15, 2026

★ Volunteer community engagement program with door to door campaign & group presentations

★ Competing with 48 other cities across the country

★ 1st Webinar in December!

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Climate Resilience

Health & Safety

Goal HS 1 Educate, engage, and empower the public for climate health and safety.

Goal HS 2 Prepare Bloomington for climate risks and impacts.

Goal HS 3 Respond to climate risks and impacts.

Photo by Rich Janzaruk

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Cool Corridors

- ★ Canopy Bloomington grant agreement

- ★ Planted trees in BHA Crestmont in 2025

- ★ Will plant trees in BHA Walnut Woods in 2026

Tree Assistance Program

- ★ Helps provide funding to remove hazardous limbs or trees for low to moderate income homeowners

Bus Stop Shelter Installations

- ★ ESD will install 6 bus stop shelters by early 2026

26

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Stay Cool Bloomington!

★ Stay Cool Bloomington Days at City Pools: 15,077 free admissions

★ AC Distribution Program: 28 applications; 8 installations

★ Stay Cool Bloomington Cool Kits: 400 distributed

citybloomington

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Food Security Grants

Hoosier Hills Food Bank - $34,950

To purchase and distribute locally grown food

Mother Hubbard's Cupboard - $34,000

To support garden program

Waste Management Grant

w/ Waste Reduction District of Monroe County

- $25,000 matching funds since 2023
- 1 Sustainable Joe - Created and managed multi-family housing compost projects

July 2025

★ Steering Committee approved Bylaws and
  Organizational Structure

September 2025

★ Steering Committee approved Advisory Committee
  Memberships for:
  ○ Cummins Inc. ($10,000 annual membership)
  ○ Electron Charger ($10,000 annual membership)
  ○ Sierra Club Winding Waters Group ($1,000 annual
    membership)
  ○ IU Environmental Resilience Institute (In-kind
    support)

New Website!

Community Engagement

ZERO IN BLOOMINGTON

Bloomington Community Orchard

Weed Wrangle at the Rail Trail

Zero in Bloomington

sustainability action platform online

Since August 2024

★ 266 new users registered - total is now 708

★ Sustainable actions taken: 543

Spring into Sustainability March 1 - 31, 2025

★ 10 community groups competed to complete the most climate-friendly lifestyle choices/actions

Sustainability Spooktacular Oct 1 - 31, 2025

★ Mobilized 69 residents to volunteer for environmental cause or join an educational workshop

31

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

Climate Action Plan Dashboard

★ Designed in collaboration between the City of Bloomington and ClimateNav

★ Annual GHG Inventory

★ Climate actions & incentives
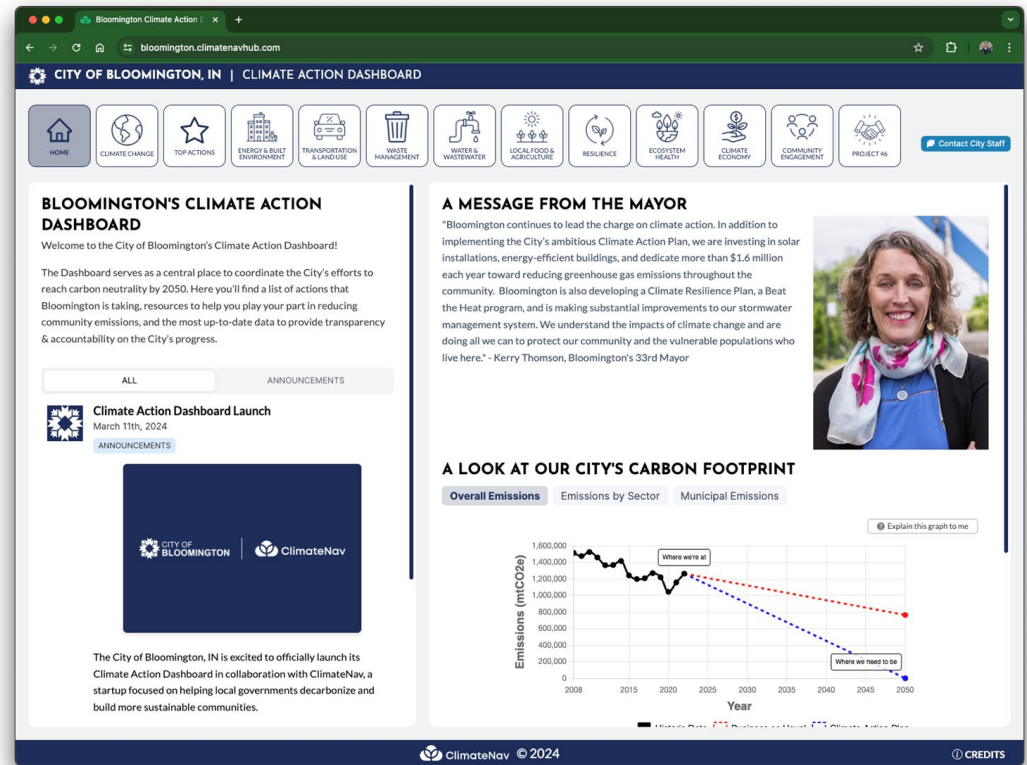
bloomington.climatenavhub.com

THANK YOU.

Questions?

CITY OF
BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

citybloomington

Counting Miles

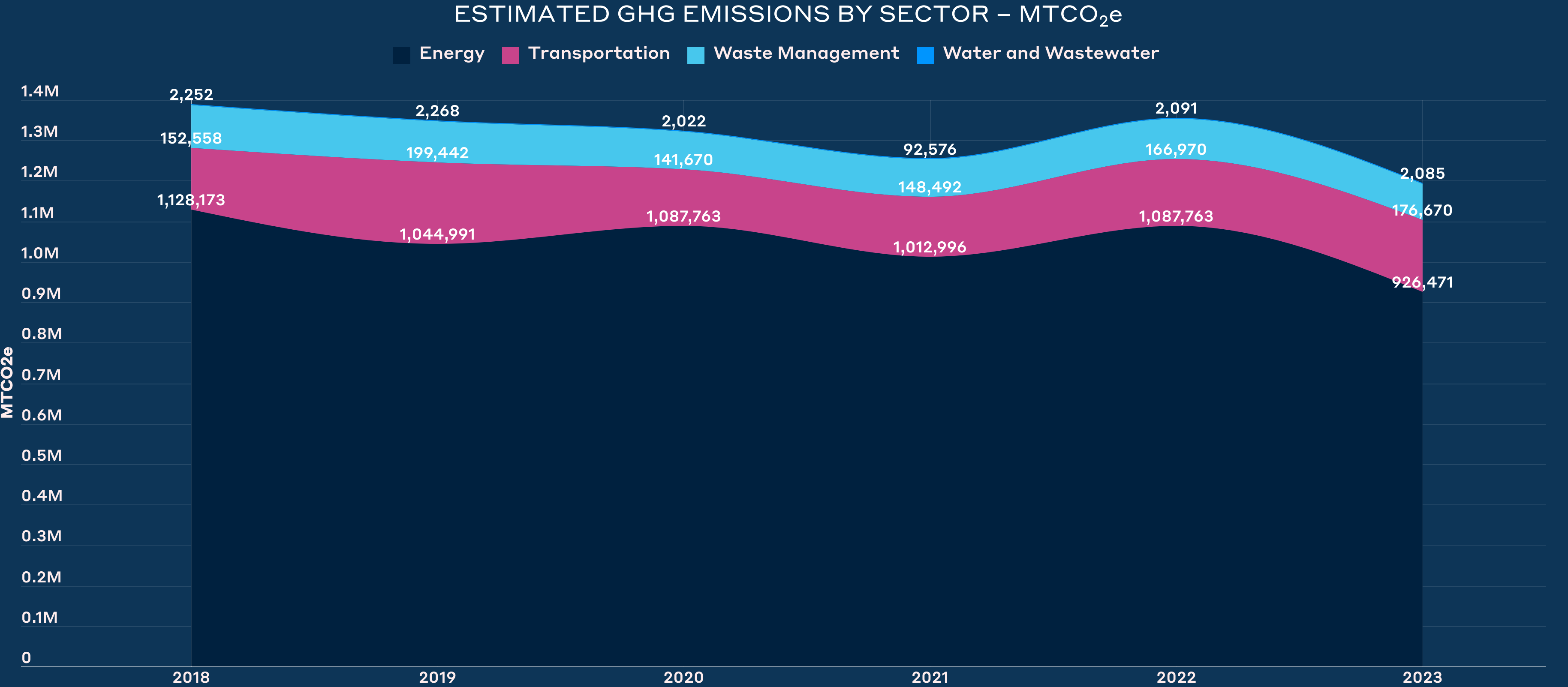Methods of Measuring Greenhouse Gas Emissions from Transportation and its Impact on Bloomington's Climate Baseline

Greenhouse Gas Emissions from Transportation
BLOOMINGTON'S CURRENT BASELINE

ESTIMATED GHG EMISSIONS BY SECTOR – MTCO$_2$e

■ Energy ■ Transportation ■ Waste Management ■ Water and Wastewater

MTCO2e

|	2018	2019	2020	2021	2022	2023
Waste Management	2,252	2,268	2,022	92,576	2,091	2,085
Transportation	152,558	199,442	141,670	148,492	166,970	176,670
Energy	1,128,173	1,044,991	1,087,763	1,012,996	1,087,763	926,471

Data - Bloomington Climate Action Dashboard

Greenhouse Gas Emissions from Transportation
DIFFERENT METHODS OF CALCULATION

IN-BOUNDARY VMT ONLY

CITY OF BLOOMINGTON
CURRENT SYSTEM

CITY LIMITS

—— COUNTS TOWARD VMT
•••• DOES NOT COUNT TOWARD VMT
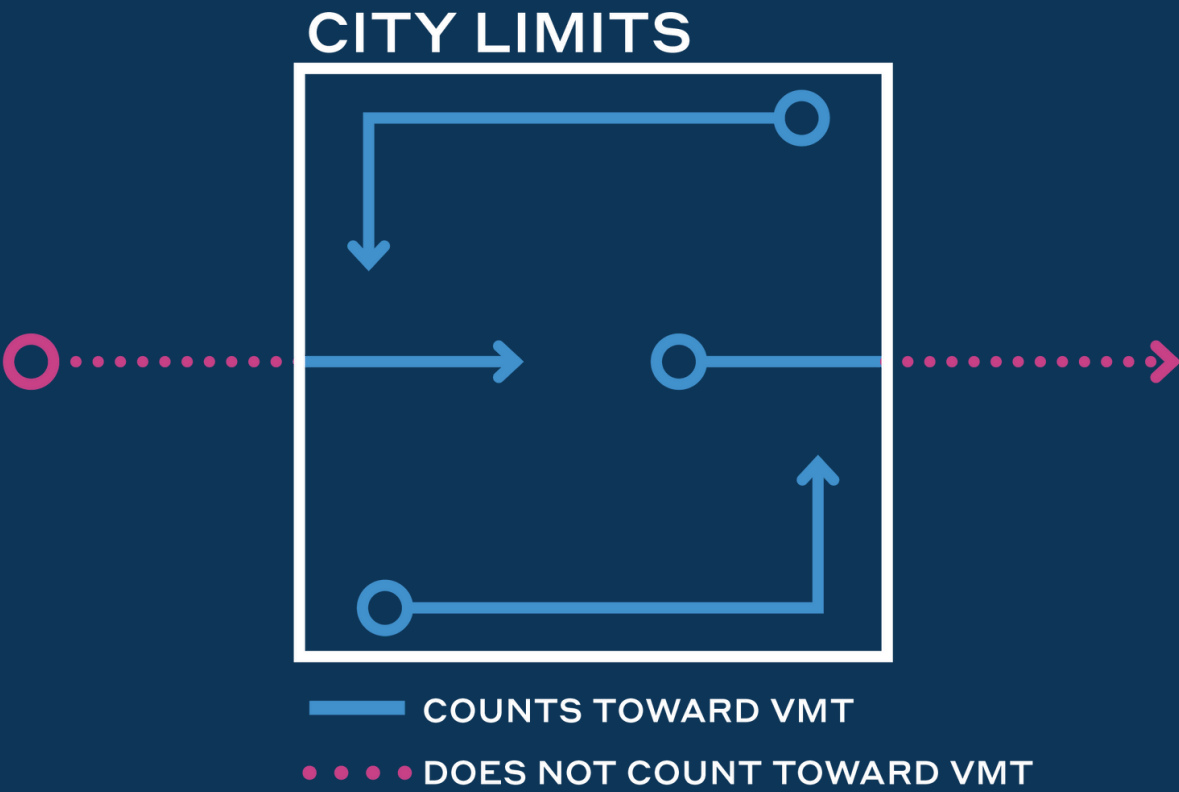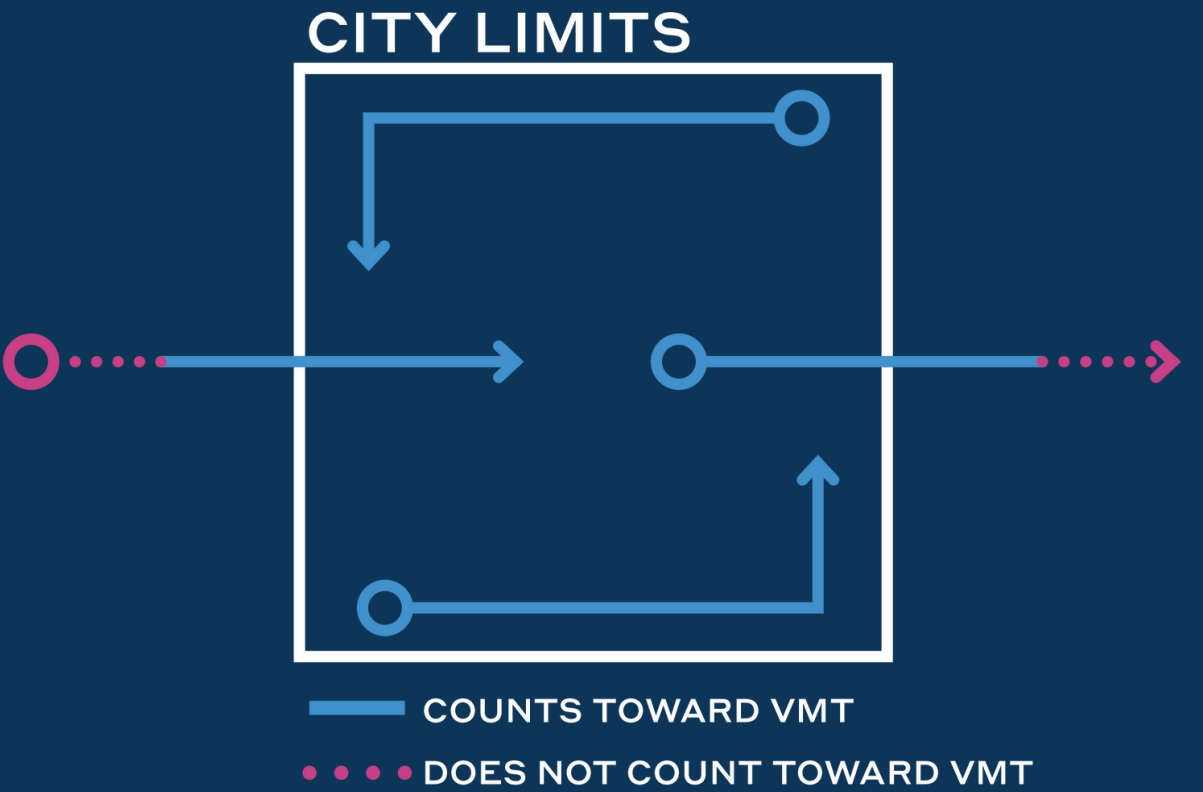
Only trips within city
limits are counted

GPC PROTOCOL
Induced traffic model

GREENHOUSE GAS PROTOCOL FOR
CITIES INDUCED TRAFFIC COMPLIANT

CITY LIMITS

—— COUNTS TOWARD VMT
•••• DOES NOT COUNT TOWARD VMT

(SIMPLIFIED DIAGRAM)

100% of In-boundary and 50% of
transboundary trips counted,
pass-through trips excluded

FULL VMT

FOR INFORMATION

CITY LIMITS

—— COUNTS TOWARD VMT
•••• DOES NOT COUNT TOWARD VMT
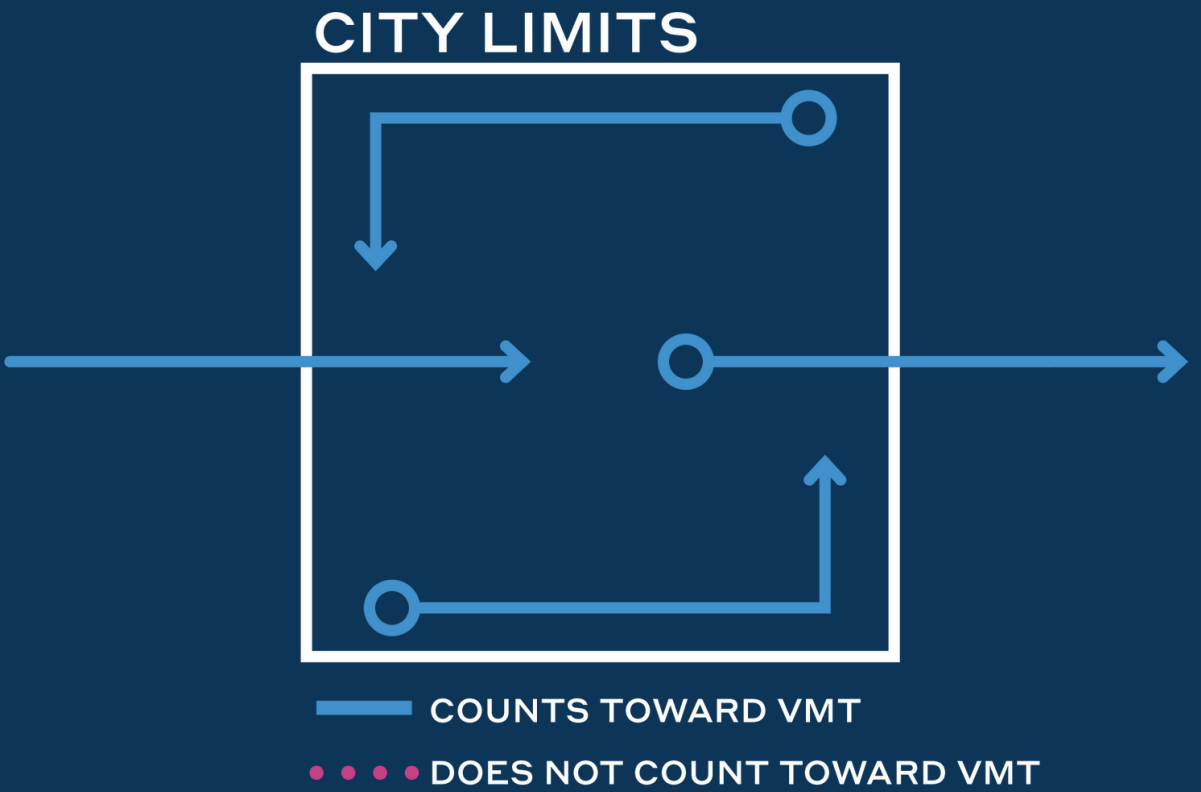
Total trip is counted for
all vehicles starting or
ending their trip within
the city

Greenhouse Gas Emissions from Transportation
DIFFERENT METHODS OF CALCULATION

Example: Someone who commutes every day to Indianapolis (roughly 13% of Bloomington's workforce)
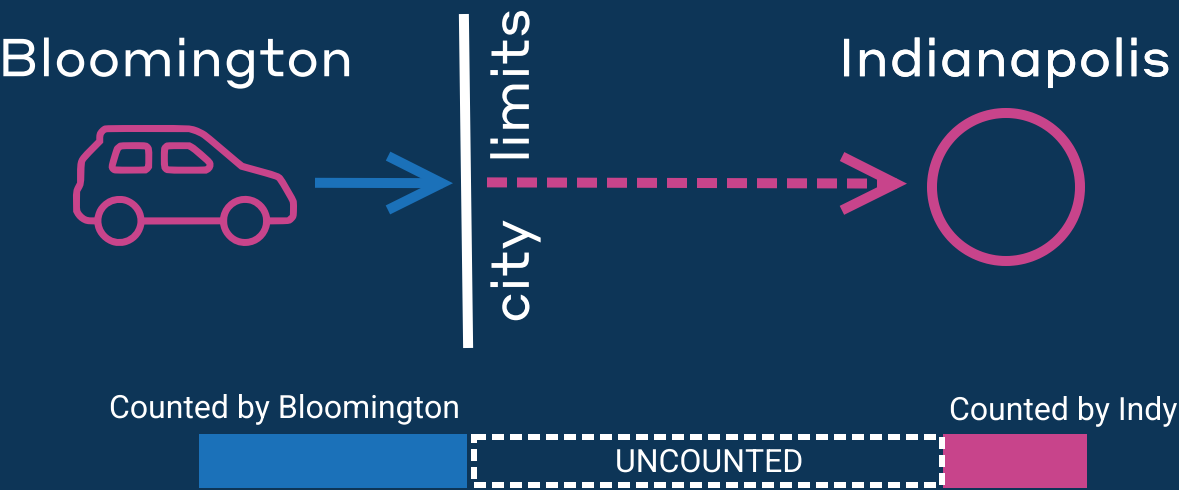
IN-BOUNDARY VMT ONLY

Bloomington · city limits · Indianapolis

Counted by Bloomington | UNCOUNTED | Counted by Indy

Only the portion within Bloomington is counted

Significant portion of the trip is uncounted by either city

GPC PROTOCOL
Induced traffic model

Bloomington · city limits · Indianapolis

Uncounted by Indy | Counted by Indy
Counted by Bloomington | Uncounted by Bloomington
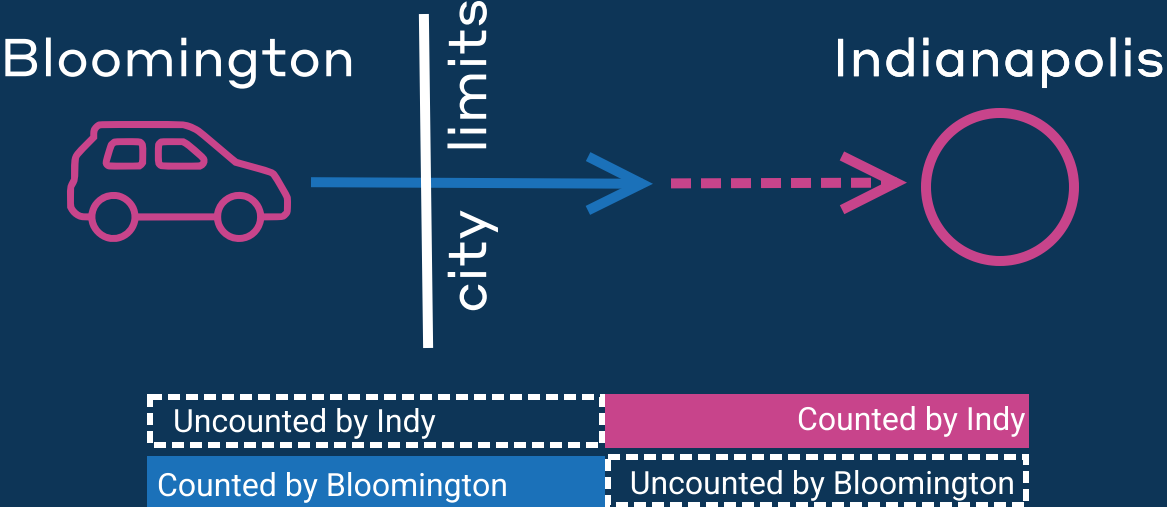
SIMPLIFIED DIAGRAM

In-boundary trips and 50% of transboundary trips counted

Less of the trip is uncounted or double-counted, accounts for traffic induced by the city

FULL VMT

Bloomington · city limits · Indianapolis

Counted by Indy
Counted by Bloomington

ENTIRE TRIP DOUBLE-COUNTED

The entire trip is counted 100% by both Bloomington and Indy

The entire trip is counted by both cities

Greenhouse Gas Emissions from Transportation
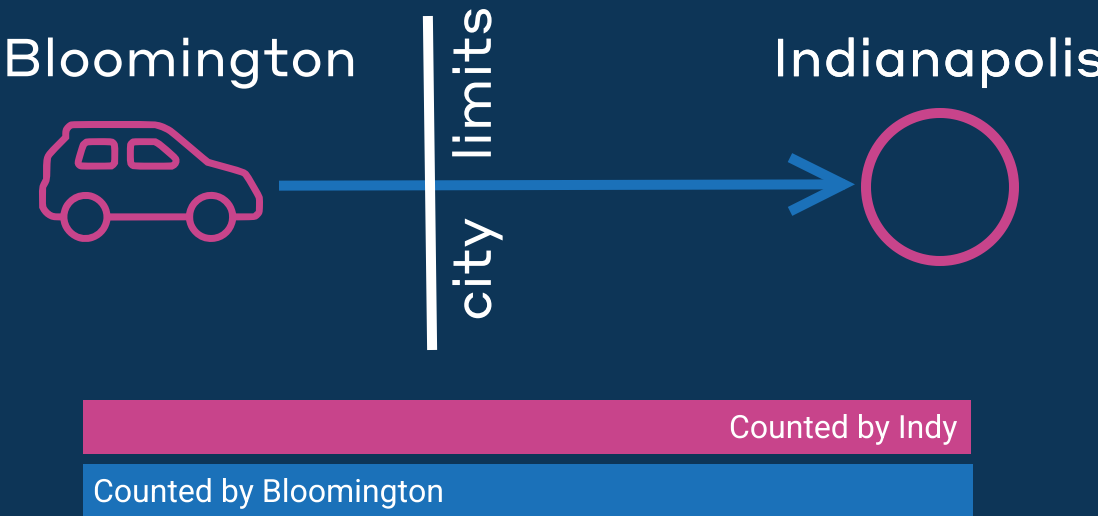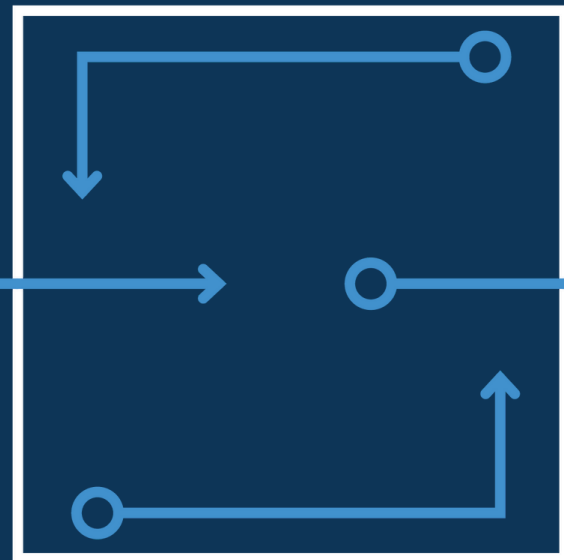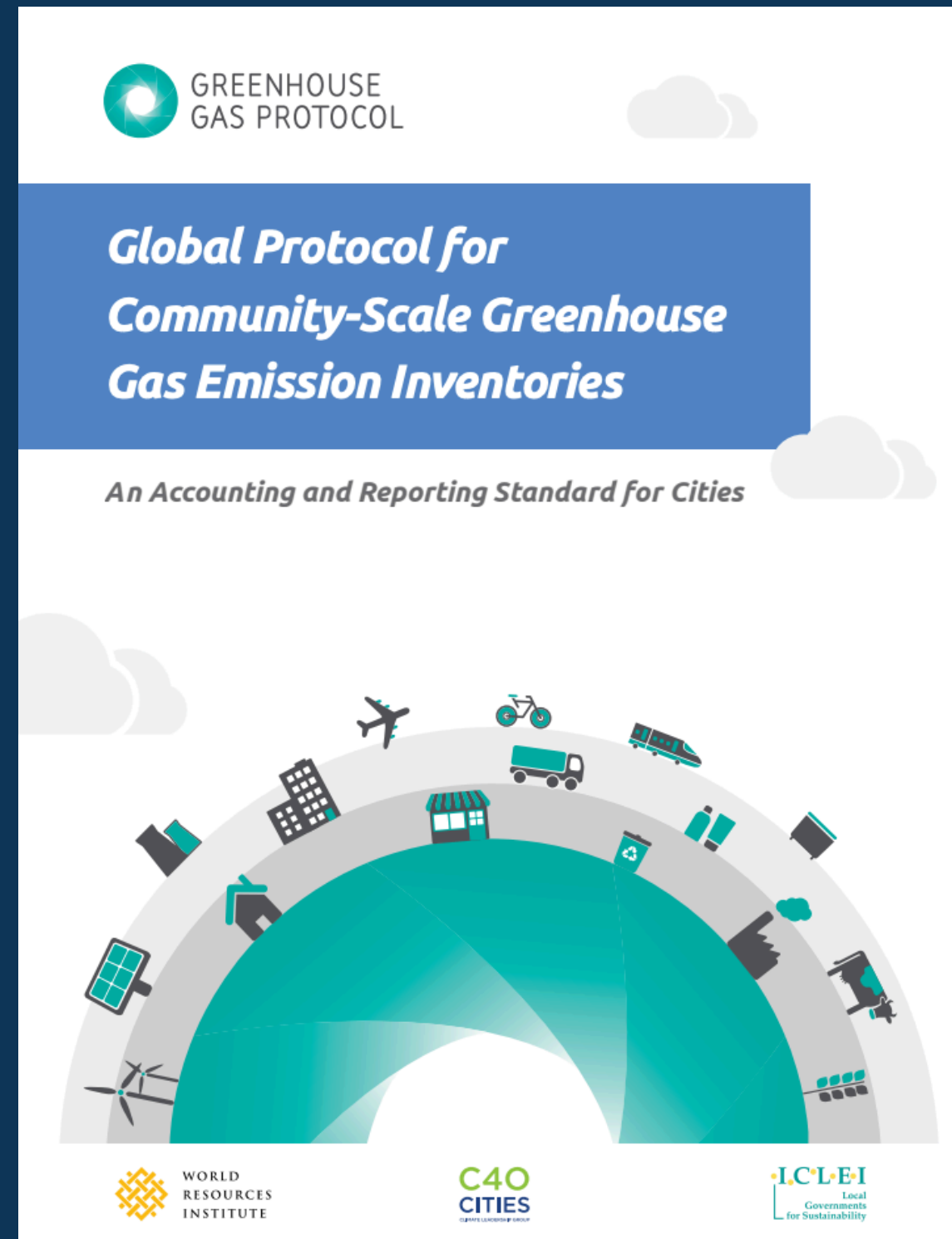## WHAT IS THE GPC PROTOCOL?

GPC PROTOCOL

GREENHOUSE GAS
PROTOCOL FOR CITIES
**INDUCED ACTIVITY
COMPLIANT**

CITY LIMITS

—— COUNTS TOWARD VMT

···· DOES NOT COUNT TOWARD VMT

100% of In-boundary and 50% of transboundary trips counted, pass-through trips excluded

GREENHOUSE GAS PROTOCOL

Global Protocol for Community-Scale Greenhouse Gas Emission Inventories

An Accounting and Reporting Standard for Cities

WORLD RESOURCES INSTITUTE   C40 CITIES   I·C·L·E·I Local Governments for Sustainability

- Developed by WRI, C40 Cities, and ICLEI
- Released in 2014, updated since
- Gold standard for municipal greenhouse inventories, adoption by municipalities is growing
- Standardizes inventories for easier apples-to-apples comparisons

The GPC includes two reporting levels, BASIC and the more robust BASIC+. **BASIC+ calls for accounting for emissions *induced by the city* in addition to direct emissions that occur within the city.** Our current transportation inventory does not meet this requirement for on-road transportation, but does for all other categories in all other sectors (except railways - a very small sector). This compounds the undercounting issue.

Greenhouse Gas Emissions from Transportation
ESTIMATING SCALE OF INDUCED TRAFFIC FROM COMMUTE DATA

More than 1 out of 5 workers in Bloomington commute more than 50 miles to their job every day (the highest rate in the state among Ind.'s 10 largest cities). Less than half commute under 10 miles.

BLOOMINGTON RESIDENTS BY COMMUTE DISTANCE

Commuters: 24,490 | 6,470 | 7,632 | 10,747

Bloomington Workforce

Legend: <10 miles | 10-24 mi | 25-50 mi | >50 mi

BASELINE EST. NUMBER OF DAILY MILES

Largely Accounted For | Largely Uncounted

Daily Miles: 244,900 | 64,700 | 191,000 | 537,350

Legend: <10 miles | 10-24 mi | 25-50 mi | >50 mi

BLOOMINGTON COMMUTE INFLOWS AND OUTFLOWS

12,426
36,407
12,932

Bloomington Workforce

According to the Census Bureau, in 2022, around 80% of commuters in the city's workforce either live outside of Bloomington and commute into the city or live inside of Bloomington and commute out. These miles mostly aren't being counted under current methods.

Legend:
- Live and Commute Inside
- Live Outside, Commute In
- Live Inside, Commute Out

Data - Census Bureau

Greenhouse Gas Emissions from Transportation
ESTIMATING SCALE OF INDUCED TRAFFIC FROM COMMUTE DATA

BLOOMINGTON <u>RESIDENTS</u> BY COUNTY OF <u>WORKPLACE</u>
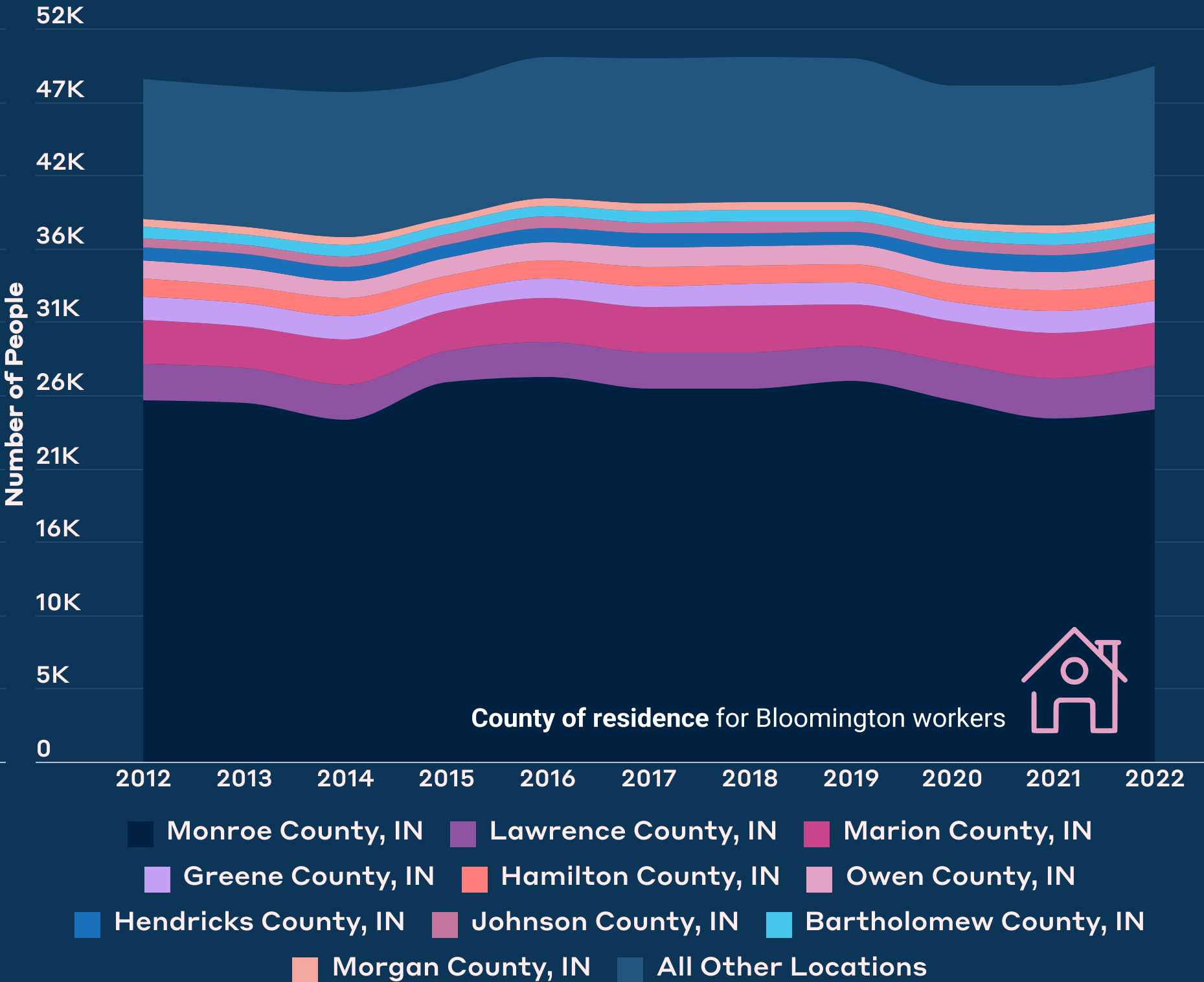
Number of People

52K
47K
42K
36K
31K
26K
21K
16K
10K
5K
0

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

Workplace county for Bloomington residents
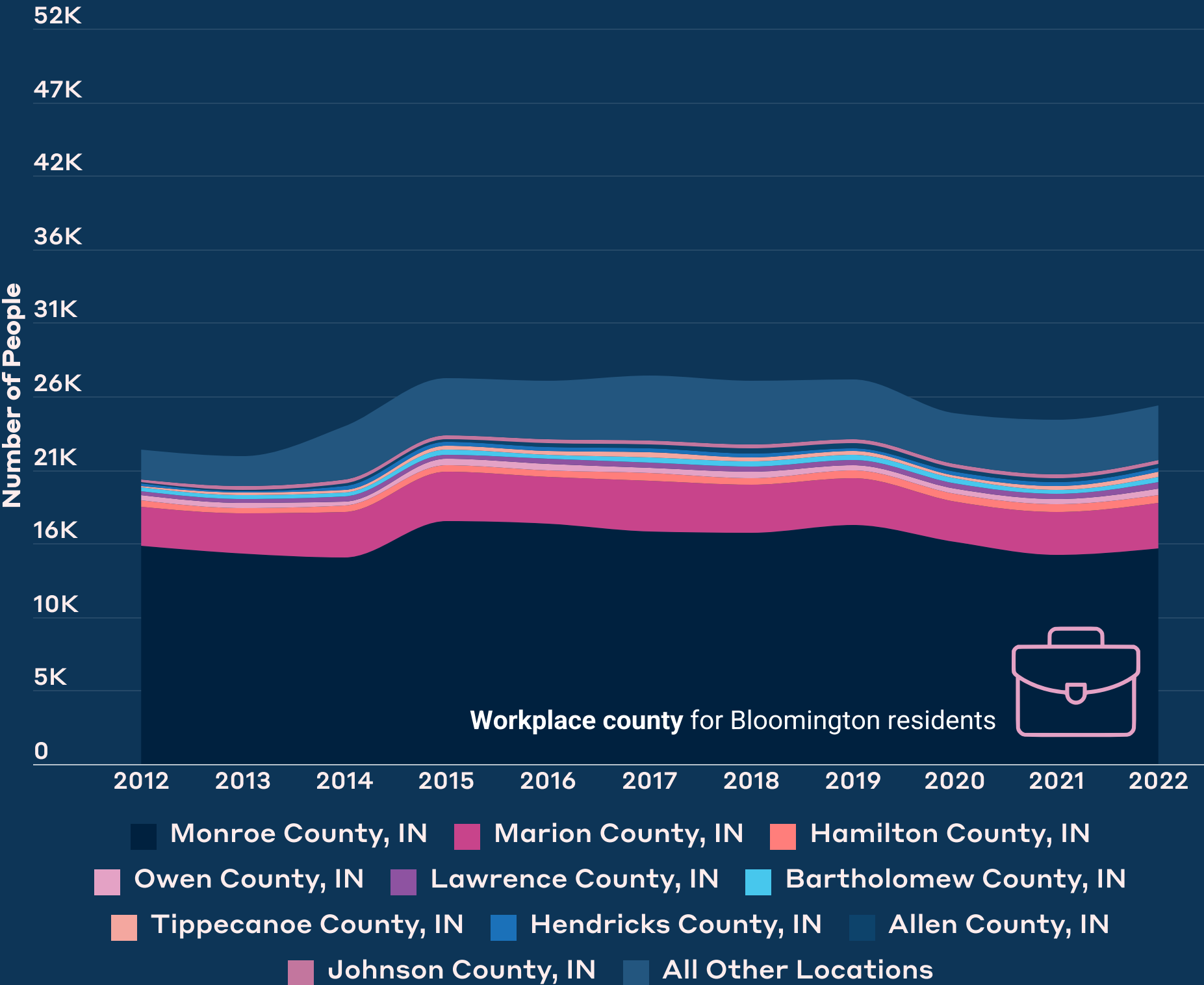
BLOOMINGTON <u>WORKERS</u> BY COUNTY OF <u>RESIDENCE</u>

Number of People

52K
47K
42K
36K
31K
26K
21K
16K
10K
5K
0

2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

County of residence for Bloomington workers

■ Monroe County, IN   ■ Marion County, IN   ■ Hamilton County, IN
■ Owen County, IN   ■ Lawrence County, IN   ■ Bartholomew County, IN
■ Tippecanoe County, IN   ■ Hendricks County, IN   ■ Allen County, IN
■ Johnson County, IN   ■ All Other Locations

■ Monroe County, IN   ■ Lawrence County, IN   ■ Marion County, IN
■ Greene County, IN   ■ Hamilton County, IN   ■ Owen County, IN
■ Hendricks County, IN   ■ Johnson County, IN   ■ Bartholomew County, IN
■ Morgan County, IN   ■ All Other Locations
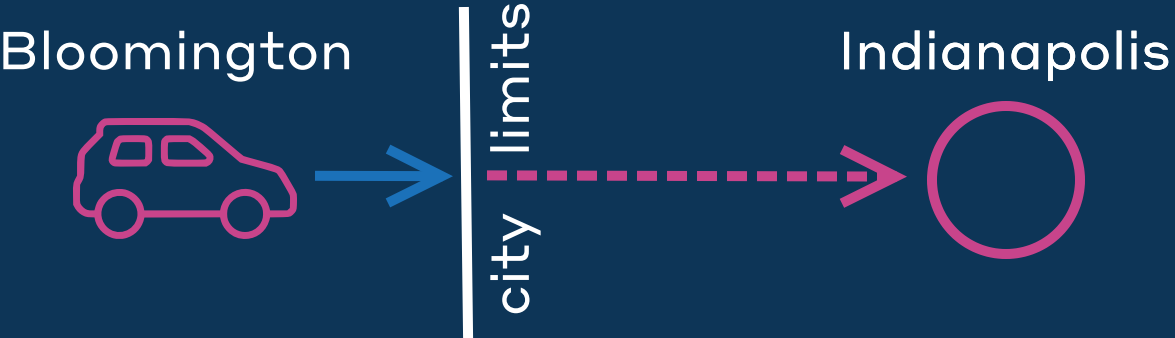
Data - All Workers, Census Bureau

Greenhouse Gas Emissions from Transportation
ESTIMATING SCALE OF INDUCED TRAFFIC FROM COMMUTE DATA

REMINDER
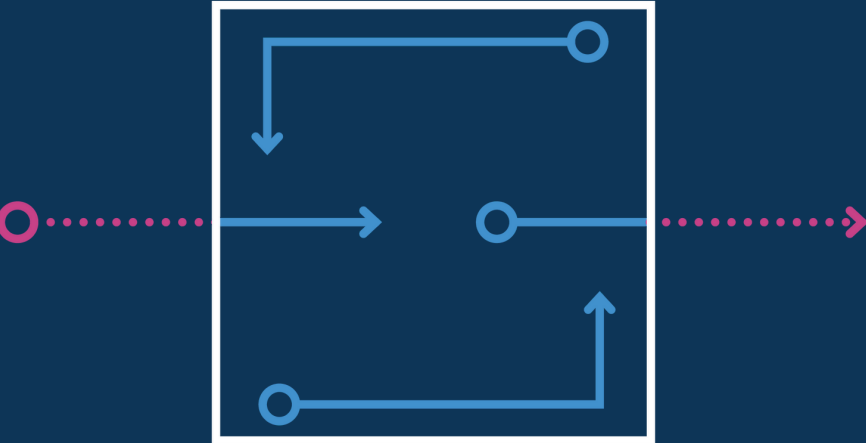
IN-BOUNDARY VMT ONLY

CITY OF BLOOMINGTON
CURRENT SYSTEM

Bloomington

city limits

Indianapolis

Counted by Bloomington
Counted by Indy
UNCOUNTED

CITY LIMITS

COUNTS TOWARD VMT
DOES NOT COUNT TOWARD VMT

COMMUTE DIRECTION AND DISTANCE FROM WORKPLACE

Outflow
People who **live in Bloomington**,
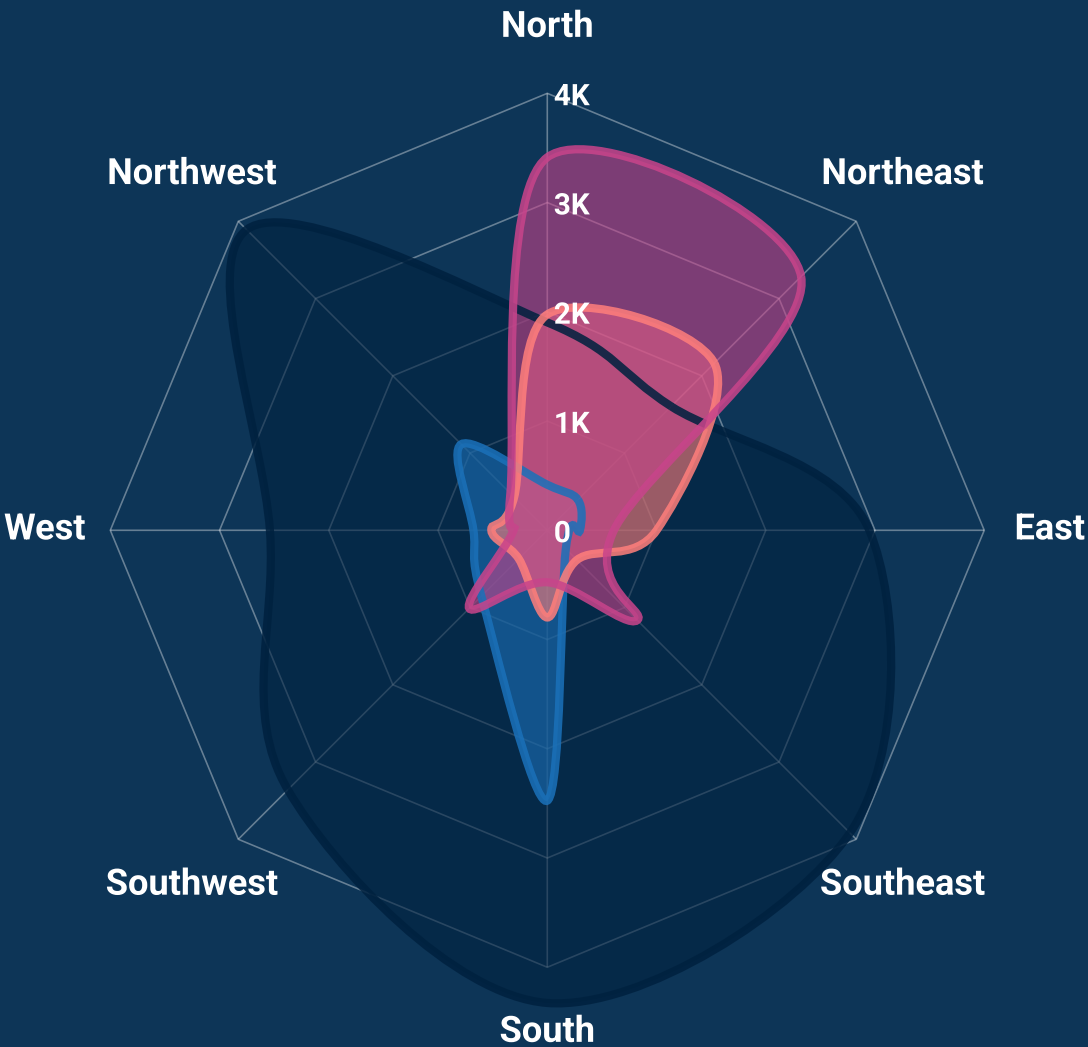distance and direction from home to workplace

● <10 mi ● 10-24 mi ● 25-50 mi ● 50+ mi

North
4K
3K
Northwest   Northeast
2K
1K
West   0   East

Southwest   Southeast

South
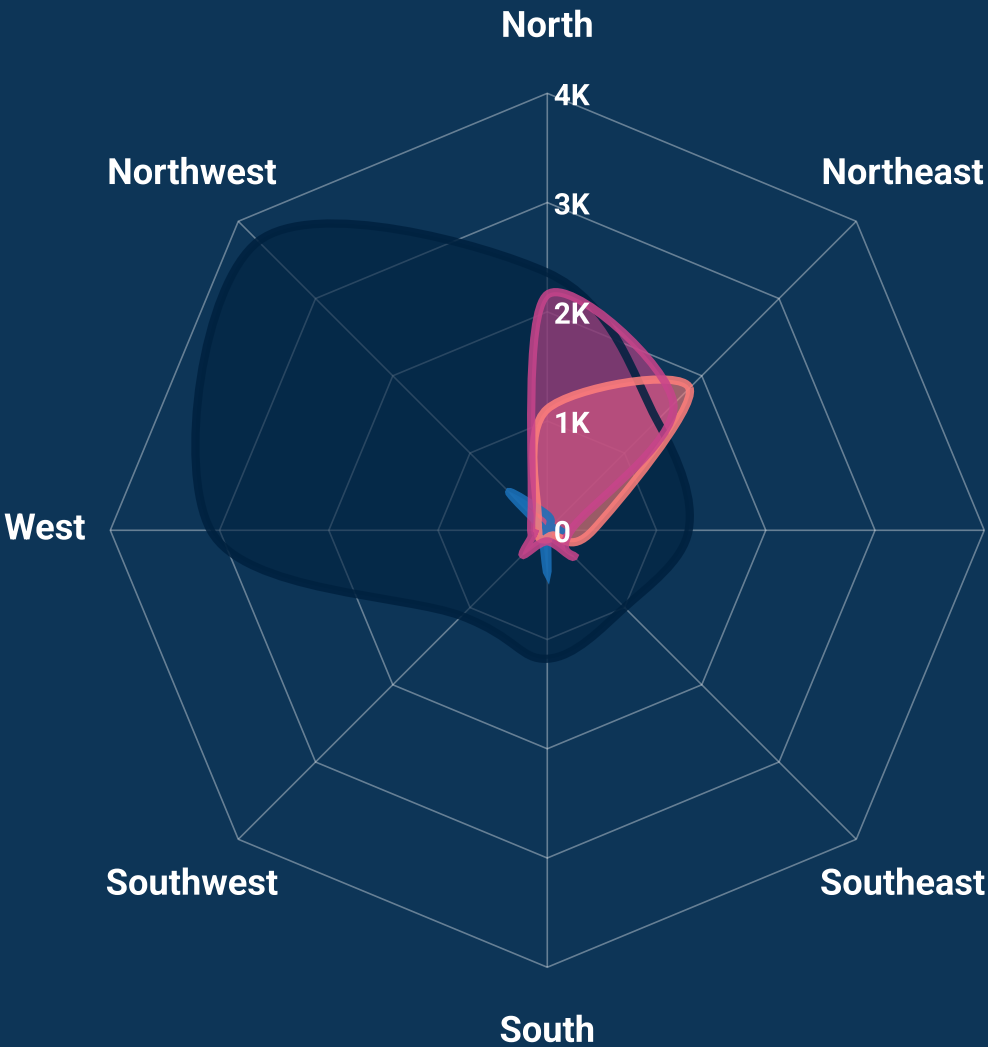
Inflow
People who **work in Bloomington**,
distance and direction from home to workplace

● <10 mi ● 10-24 mi ● 25-50 mi ● 50+ mi

North
4K
3K
Northwest   Northeast
2K
1K
West   0   East

Southwest   Southeast

South

Data - 2022 Census Bureau

Greenhouse Gas Emissions from Transportation
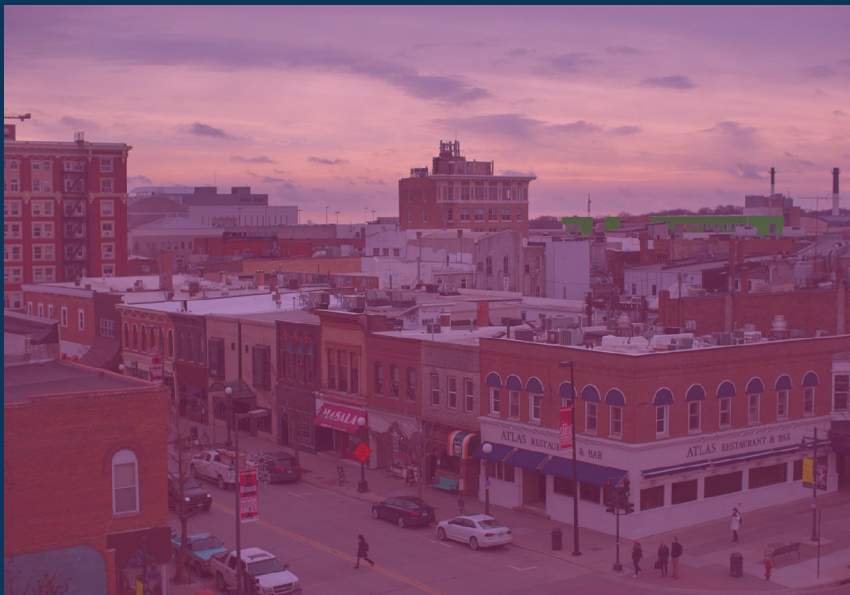## HOW PEER CITIES MEASURE VMT FOR GHG INVENTORIES
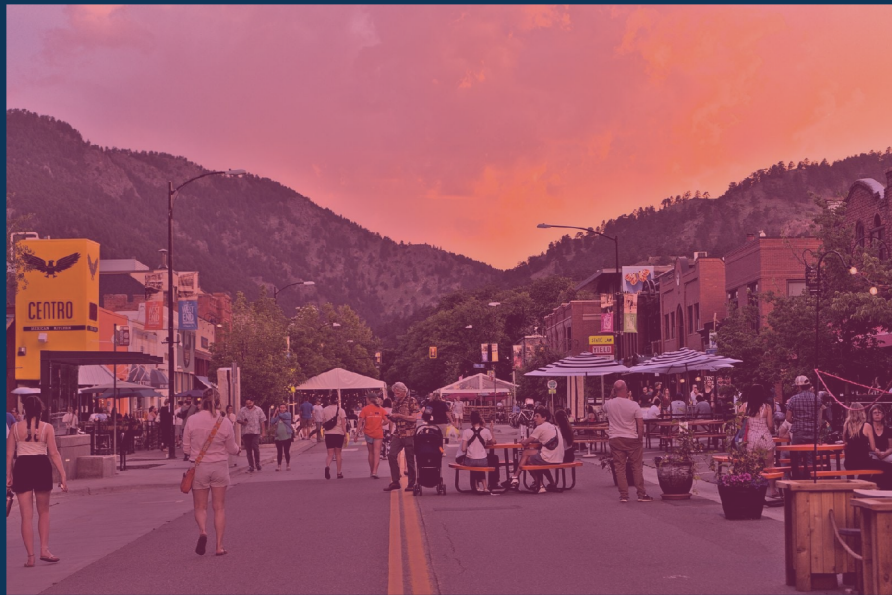
BOULDER, CO
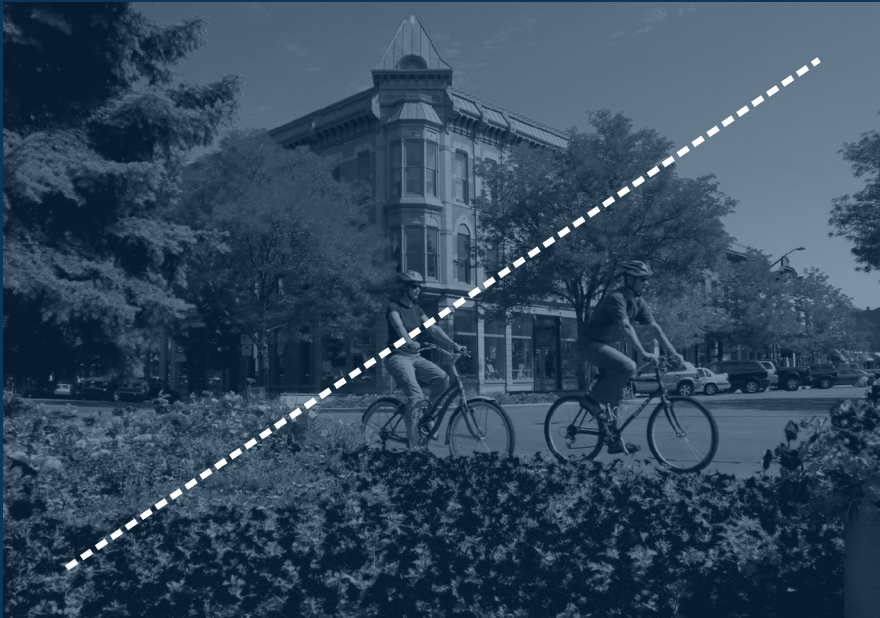GPC Induced Traffic
In- and transboundary

ANN ARBOR, MI
GPC Induced Traffic
In- and transboundary

LAWRENCE, KS
GPC Induced Traffic
In- and transboundary

AMES, IA
GPC Induced Traffic
In- and transboundary

FORT COLLINS, CO
Unclear

BLOOMINGTON
In-boundary only

Location	Method Used	Year
Boulder, CO	In- and Transboundary	2021
Fort Collins, CO	*Unclear*	2023
Ann Arbor, MI	In- and Transboundary	2023
Bloomington, IN official	VMT in-boundary only	2023
Douglas County, KS (Lawrence)	In- and Transboundary	2021
Ames, IA	In- and Transboundary	2021

Greenhouse Gas Emissions from Transportation
COMPARING TO PEER CITIES

GHG EMISSIONS PER HOUSEHOLD FROM TRANSPORTATION FOR BLOOMINGTON AND SELECTED PEER CITIES

Megatons of CO_2e per household

Data - Bloomington Climate Action Dashboard, Individual city dashboards, Google EIE, Census Bureau

BLOOMINGTON EIE WITH INDUCED TRAFFIC EST.

Bar chart — MTCO2e per Household:
- Boulder, CO Official: 11.77 (INDUCED TRAFFIC MODEL)
- Fort Collins, CO: 6.78 (UNCLEAR)
- Ann Arbor, MI: 12.65 (INDUCED TRAFFIC MODEL)
- Bloomington, IN official: 5.24
- Bloomington, IN EIE with Induced Traffic: 8.98 (INDUCED TRAFFIC MODEL)
- Bloomington, IN EIE Full VMT: 14.97
- Douglas County, KS (Lawrence): 7.29 (INDUCED TRAFFIC MODEL)
- Ames, IA: 5.53 (INDUCED TRAFFIC MODEL)

Greenhouse Gas Emissions from Transportation
COMPARING EMISSIONS TO OFFICIAL COUNT

ESTIMATED TRANSPORTATION GHG EMISSIONS

— Current (In-boundary only)   — GPC Induced Traffic EIE

Total MTCO2e

320K
300K
280K
260K
240K
220K
200K
180K
160K
140K
120K
100K
80K
60K
40K
20K
0

285,000 — 294,000 — 230,000 — 281,000 — 300,000 — 303,000   GPC Induced Traffic EIE

152,558 — 199,442 — 141,670 — 148,492 — 166,970 — 176,670   Current (In-boundary only)

2018   2019   2020   2021   2022   2023

Data - Bloomington Climate Action Dashboard, Google EIE
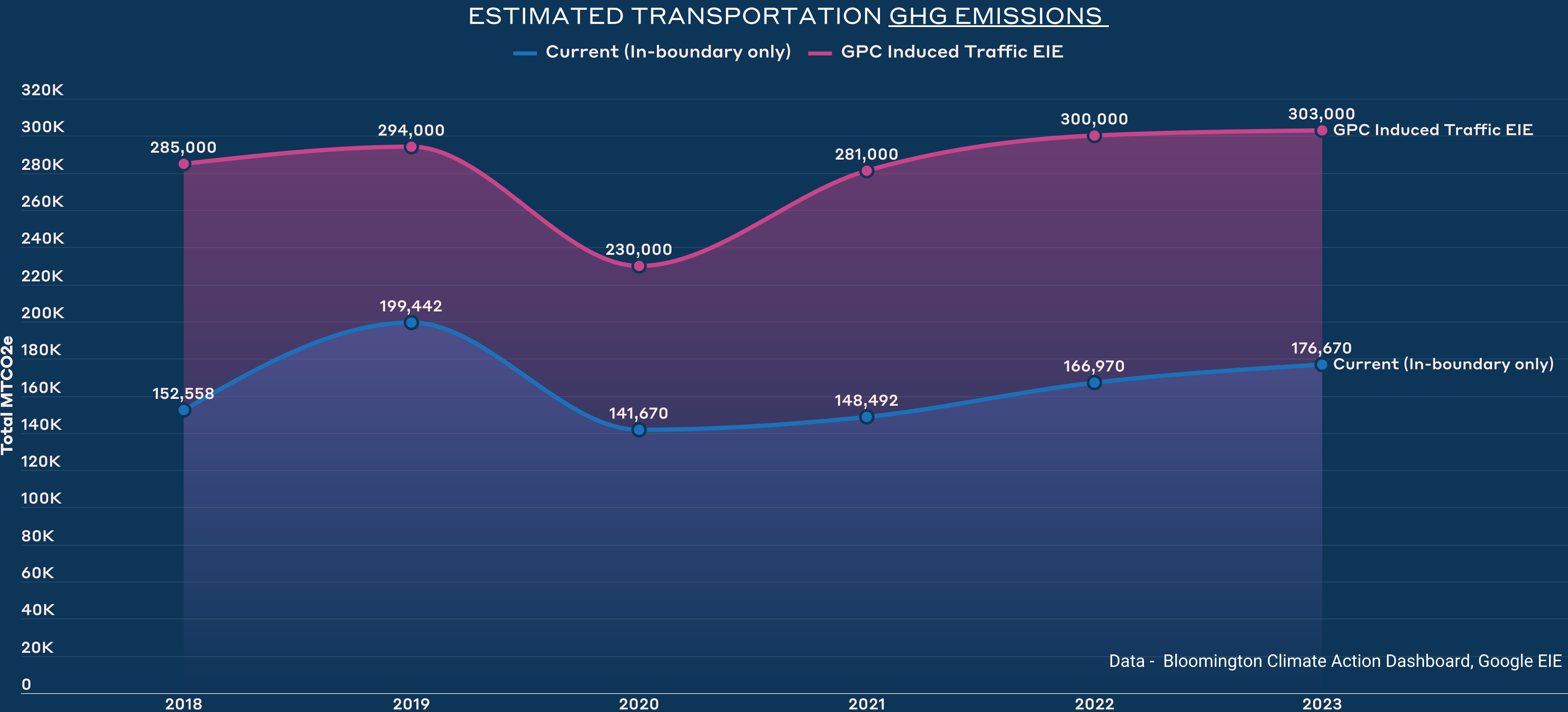
Greenhouse Gas Emissions from Transportation
DIFFERENCE IN INVENTORIED EMISSIONS BY VMT METHOD

BLOOMINGTON - <u>TOTAL EMISSIONS</u> BY SECTOR (MT CO$_2$)

Current	926,000	176,670	90,000	2,000
GPC EIE Induced	926,000	303,000	90,000	2,000

0   0.2M   0.4M   0.6M   0.8M   1M   1.2M   1.4M

MTCO2

■ Energy   ■ Transportation   ■ Waste Management   ■ Water and Wastewater

BLOOMINGTON - <u>PERCENT OF EMISSIONS</u> BY SECTOR

Current	77.51%	14.79%	7.53%	0.17%
GPC EIE Induced	70.10%	22.94%	6.81%	0.15%

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

MTCO2

■ Energy   ■ Transportation   ■ Waste Management   ■ Water and Wastewater

Data - Bloomington Climate Action Dashboard, Google EIE

Greenhouse Gas Emissions from Transportation
DATA SOURCES AND THEIR ISSUES

The data to calculate GPC-Compliant Induced Traffic VMT for Bloomington is now freely available and accessible by anyone on Google's **Environmental Insights Explorer (EIE)** with no barriers to access

EIE uses real-time data from Google Maps users to estimate VMT with an algorithm, EIE's dataset is massive and dramatically more granular in comparison to most public data sources.

*Among the peer cities looked at, EIE is being used as the main source of transportation emissions data in **Boulder**, CO, and **Lawrence**, KS. **Athens**, Greece is also using it exclusively, and **Seattle**, WA; **Austin**, TX; **San Jose**, CA; **Hartford**, CT; and **Pittsburgh**, PA also use it in some capacity. This is a non-exhaustive list.*

BOTTOM LINE:
Public data with clearer methodology would be preferable (INDOT) if it allowed for calculating VMT that included induced traffic, but it isn't granular enough to do so, and so leads to undercounting of GHG emissions from transportation

Greenhouse Gas Emissions from Transportation
ENVIRONMENTAL INSIGHTS EXPLORER

While EIE doesn't give a full A-Z methodology (which is a valid criticism), Google has conducted ground truthing comparisons of their data with real-life road counts at multiple points in several cities **and found a 0.9 correlation (very high) between their estimates and direct road sensing (going up to 0.99 for some areas)**
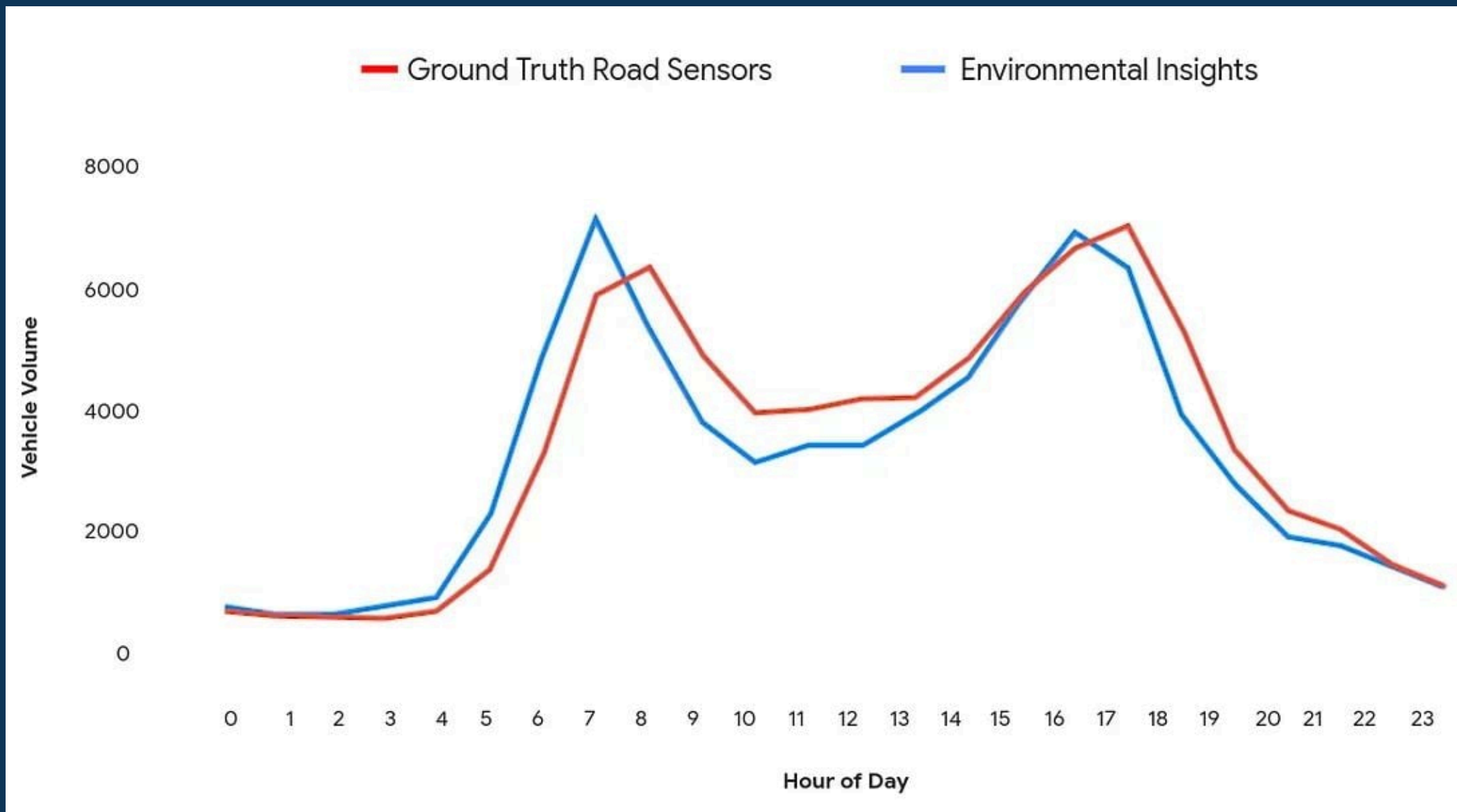
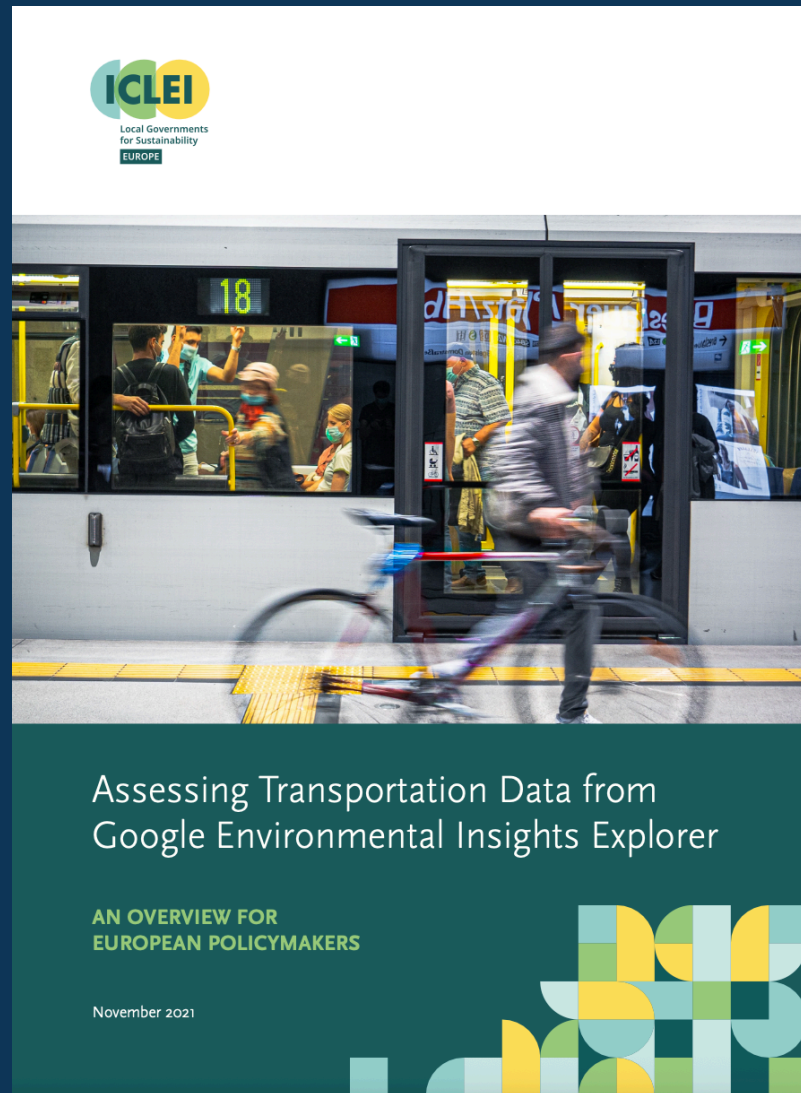Among the cities looked at, Boulder and Lawrence both use EIE data

○ Traditional approaches to measuring traffic in a city may include: collecting road sensor data from a selection of roads and then applying a local or regional model to it; estimates based on fuel purchased within the city boundary; or downscaled values from regional averages. EIE's underlying data is most similar to GPS data providers and consists of users who have opted in to location services, such as Google Maps, or smartphone users who have Location History enabled. We then apply a number of anonymization and privacy filters to the data, aggregate all trips over the course of the year, and scale the data to the entire city population.

○ We have completed a vehicle count comparison between EIE and road sensor data at a number of intersections in the city of Mountain View, CA and Boulder, CO. We found on average, a greater than 0.90 positive Pearson correlation between the road sensor counts and Google's estimations of vehicle volume. This indicates that the sampling of Google trips is a consistent subset of real world vehicle volume, with the added benefits of trip distance/duration data and global scale applicability. In other words, Google data can be a sufficient alternative to road sensors, such as pneumatic tubes. Furthermore, the aggregate scaled vehicle counts of EIE were found to be within an average of 15% of the road sensor data. We expect this value to improve over time as we refine the algorithms used to scale from observed trips to that of the real world population. See comparisons of our data.

Partial methodology here...
...and here

Greenhouse Gas Emissions from Transportation
ENVIRONMENTAL INSIGHTS EXPLORER

ICLEI - Local Governments for Sustainability issued a report outlining the use of EIE data for GHG Inventories for European Union policymakers. See report (link to overview here)

ICLEI
Local Governments for Sustainability
EUROPE

Assessing Transportation Data from Google Environmental Insights Explorer

AN OVERVIEW FOR EUROPEAN POLICYMAKERS

November 2021

"Google EIE proves to be a promising tool that can support cities' ambitions to reduce emissions in the transport sector and to promote sustainable urban mobility. ICLEI Europe recommends that cities and regions that have challenges in developing their GHG inventory and/or lack mobility data try EIE. **Cities with existing inventories are also encouraged to report on EIE, if applicable, to allow for easier comparisons across cities and to foster a more peer-to-peer experience."**

- **Cities tend to use detailed but infrequent and non-periodic surveys to collect local mobility data to inform their transport reporting.** There are differences, for example, in the years that surveys are undertaken and the understanding of trips by different modes (namely multiple modes for one trip). Furthermore, limitations in current practices were identified in discussions with cities, such as the ability to collect data for those who are not residents in a particular city, and may not be surveyed but travel within the city's boundaries. This makes it challenging to define precise conclusions and compare results.

EIE mobility data, on the other hand, has the advantage of being able to provide detailed trip data for resident and non-resident activity on an annual basis.

Detailed technical assessment by ICLEI Europe here (49 pages)

Greenhouse Gas Emissions from Transportation
ENVIRONMENTAL INSIGHTS EXPLORER - DETRACTORS

EIE is not without its detractors, <u>an article in Urban Studies in 2025 by Koch and Beyer</u> is highly critical, although *primarily on a philosophical basis*, and did not directly challenge the overall technical accuracy or potential applications of the EIE

Main critiques from Koch and Beyer article:

1. EIE **increases reliance on big tech**, representing what they call a "tech-down" approach to governance and exacerbating existing power imbalances between local government and large corporations *(**very** valid! I largely agree with this critique)*

2. EIE may **undercount users without cell phones** in mode-split calculations *(in a city like Bloomington where the overwhelming percent of trips are by car, this is less of an issue, and can be worked around by not using EIE data exclusively for mode split calculations -- there are other public sources of mode split data)*

3. Cities **cannot alter EIE's indicators themselves** *(although they can tweak the parameters of the indicators to fit local needs. I found this argument to be a bit silly)*

4. EIE is likely **less accurate in Global South** contexts *(undercounting things like tuk-tuks or rickshaws - very valid for Global South cities but not for Bloomington)*

A gift from heaven: Google's Environmental Insights Explorer and its tech-down approach to monitor urban sustainability beyond local contexts

Florian Koch
University of Applied Sciences HTW Berlin, Germany

Sarah Beyer
University of Applied Sciences HTW Berlin, Germany

Sarah Beyer is also affiliated with University of Münster, Germany.

Abstract
Google's Environmental Insights Explorer (EIE) exemplifies a tech-down approach by leveraging proprietary data, machine learning and artificial intelligence to analyse urban greenhouse gas emissions, solar potential and tree canopy coverage. While framed as a tool for cities to assess and improve sustainability, the EIE often overlooks localised contexts and depends on opaque data generation processes that follow commercial interests. This study evaluates the EIE's data assemblage through critical urban data studies, focusing on its technical and contextual stacks. It critiques the EIE's lack of transparency, dependence on proprietary data and marginalisation of local expertise. Despite its promise, the EIE raises significant concerns about power imbalances, data validity and urban governance implications. Cities utilising the EIE must reconcile its global standardisation with specific local needs, navigating a complex landscape shaped by Google's corporate interests. The findings highlight the need for a more inclusive, context-specific approach to urban sustainability metrics that balances innovative data use with transparency and equitable stakeholder engagement. The EIE demonstrates how sustainability indicators and data are defined through a technology-driven process shaped by a private company, while neglecting local knowledge and narratives. This process – referred to as a tech-down approach – differs from both bottom-up and top-down methods of sustainability indicator selection, as well as from data philanthropy initiatives by private companies, due to its exclusive reliance on corporate data and its global scope. This study urges critical reflection on the broader implications of tech-driven urban monitoring tools like the EIE.

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Email: Florian.Koch@htw-berlin.de

Greenhouse Gas Emissions from Transportation
FINAL THOUGHTS

- Our current method of calculating transportation emissions is **likely undercounting transportation emissions** as it does not account for traffic induced by the city, which Census data suggests is substantial

- **Public or opensource data sources are preferable.** We should explore if there are viable alternative methods to EIE that would allow for counting induced traffic without reliance on Big Tech data

- If an alternative is not available, **Google's EIE provides a viable, immediately accessible and free alternative method that is compliant with the GPC protocol, accounts for induced traffic** and is already in use by a variety of larger and peer cities

BOTTOM LINE

We should consider at the least including EIE data that accounts for induced traffic in VMT calculations into our GHG inventory alongside INDOT VMT counts.