Transportation Planning

For People & The Climate

LESSONS FROM THE MIDWEST

Acknowledgments

The RE-AMP Network would like to thank the following people for their collaboration or contribution on this report:

Report researchers and writers:
Kari Carney - *1000 Friends of Iowa*
Ruth Davis - *RE-AMP*
Gail Francis - *RE-AMP*
Gregg May - *1000 Friends of Wisconsin*
Megan Owens - *Transportation Riders United*
Elissa Schufman - *Move Minnesota*

Special thanks to the General Motors Climate Equity Fund for providing funding.

Design: Jason Killinger

Interviewees: Keith Reopelle, Kathryn Kuntz, Kathleen Mayell, Suzann Flowers, Gregory Norris, Amy Rynell, Abe Scarr, Brian Gill, Wesley Sparkman

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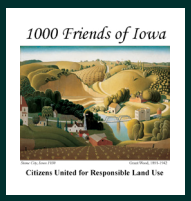
The RE-AMP Network sets collective strategy and enables collaboration on climate solutions in the Midwest. Our goal is to equitably eliminate greenhouse gas emissions in the Midwest by 2050.



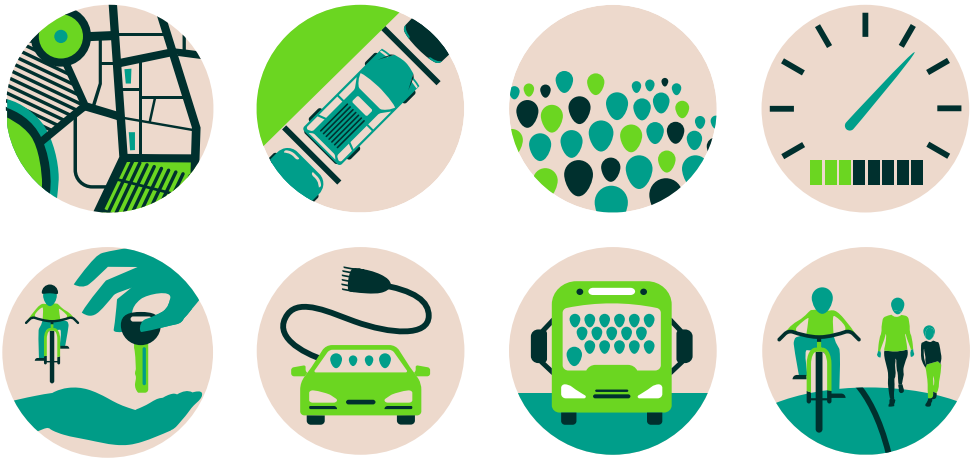
1000 Friends of Iowa is a statewide, membership based organization focused on engaging Iowans around responsible, equitable land use, transportation, and the intersection of climate change.

Move Minnesota leads the movement for an equitable and sustainable transportation system that puts people first. We are passionate about connecting communities, ending the climate crisis, expanding access to jobs and resources, and improving daily life for Minnesotans of all ages, races, incomes, and abilities. We connect people to transit where the system works well, and fight hard to ensure it works for everyone.

1000 Friends of Wisconsin was created in 1996 with a focus on promoting Wisconsin's Smart Growth Comprehensive Planning Law. We understand that climate change and land use are intrinsically linked. Our goal is to help people make the connection between sound land use and transportation decisions, which lead to a healthier, cleaner environment.

Transportation Riders United (TRU) is a Detroit-based nonprofit that believes everyone should be able to get where they need to go, regardless of what they drive. TRU educates, mobilizes, and advocates for more and better public transit and other affordable mobility options throughout metro Detroit. More at DetroitTransit.org.

Executive Summary



Transportation, land use, and climate are inextricably linked. Whether people are walking, biking, taking transit, or using their personal automobile is largely determined by how easy it is to access the places they need to reach. In turn, the mode of transportation people choose to use has a significant impact on greenhouse gas emissions, climate change, and overall environmental quality.

In many ways, the path to create a more sustainable system is straight-forward. Transportation behavior follows investment, and that behavior can either cause or reduce emissions. When a jurisdiction invests in efficient, frequent, and rapid transit, it draws substantially more riders. When a jurisdiction supports local trips and active transportation, it sees more walking and biking. When a jurisdiction invests in highway expansion, it sees more driving, more sprawl, and more transportation emissions.

This report draws on a review of three types of planning documents – climate plans, comprehensive land use plans, and transportation plans. These long-term guiding documents all play a role in determining the intention and direction of transportation decisions.

Our research was guided by three questions:

- *As a region, how is the Midwest working to minimize climate change through its local planning structures?*
- *How are common concepts integrated across different kinds of plans? Do the different plans within a given jurisdiction "talk" to each other?*
- *As local jurisdictions consider creating or amending their plans, what might they be able to learn from their peers in the Midwest?*

Our research focused primarily on 25 local units of government across five states – Iowa, Illinois, Michigan, Minnesota, and Wisconsin.

Our findings are divided into two sections: the first focusing on Climate Planning, and the second focusing on Comprehensive Land Use and Transportation Planning.

How Climate Plans Address Emissions from Transportation

The climate plans reviewed nearly always contained proposals related to active transportation, transit, and electric vehicles, but often failed to consider some of the most powerful strategies, such as reducing vehicle miles traveled (VMT), limiting highway expansion, or smart land use.

The process for creating climate plans was not always as inclusive as it should be, though there are some good models. Most climate plans claim a desire to center equity, but only a few discuss specific metrics for determining or prioritizing equity.

We recommend the following for creating climate plans.

Process Recommendations:

- **Provide specificity.** *It is important for plans to have some flexibility to allow for changes in technology or community needs. However, naming specific strategies, metrics, numeric targets, and action steps rather than general goals such as increasing transit ridership, will make implementation much easier and increase accountability.*

- **Ensure goals, strategies, and actions are time bound.** *Time bound targets help jurisdictions account for plan implementation in their budgets, as well as ensuring accountability that goals are not put off indefinitely.*

- **Include fiscal planning and constraints.** *Considering how shifting resources from climate-polluting infrastructure to climate-sustainable infrastructure is critical in setting our commitments up to be successfully realized.*

- **Expand the scope of the plan's transportation outlook.** *Including discussion of highways, freight, rail, or air would make climate plans more relevant to the transportation system as a whole.*

Content Recommendations:

- **Include VMT (Vehicle Miles Traveled) reduction goals.** *Specific goals to reduce how many miles people travel in a car is critical to framing the problem of how to reduce transportation emissions.*

- **Ensure Complete Streets policies have a modal hierarchy with teeth.** *Complete Streets is a popular strategy to promote transit and active transportation, but it is important to make a policy with enough specificity to be enforceable.*

- **Limit highway construction and prioritize density, transit, walkability, bikeability, and shared mobility.** *This includes a wide range of goals and strategies, from investing in highway removal, to building protected bike lanes and safe transit stops, to enacting parking maximums.*

- **Promote mixed use, mixed income, walkable neighborhoods with a variety of housing choices that retain residents.** *This is critical to ensuring that our communities develop in a way that is accessible, reduces how much people have to drive, and is equitable for all residents.*

- **Acknowledge EVs as a small part of the solution, and then make sure to go beyond them.** *Though EVs are a helpful tool to reduce emissions, they must be treated as a small portion of the solution. Plans must work to counter the problem of induced demand, and provide true mode choice.*

How Comprehensive Plans and Transportation Plans Address Climate

Our team was delighted to see that some of the comprehensive and land use plans reviewed had substantial goals and strategies to help address issues of climate and equity. These included shifting the balance of funding towards active transportation, reducing VMT, and reducing freight emissions. Of climate-aligned transportation strategies, the most common ones to be meaningfully addressed in comprehensive and transportation plans were transit and active transportation. Unfortunately, many plans did not adequately address climate concerns or clean transportation strategies.

We recommend the following for creating long-range comprehensive and transportation plans:

Process Recommendations:

- **Ensure plans have a transparent timeline and assign responsibility for all goals and projects.** *This is key to ensuring accountability.*

- **Set specific and measurable climate-aligned targets and strategies.** *Specific, measurable targets are the only way to ensure that climate-aligned transportation and land use strategies are implemented on a scale that fits the immediacy of the problem.*

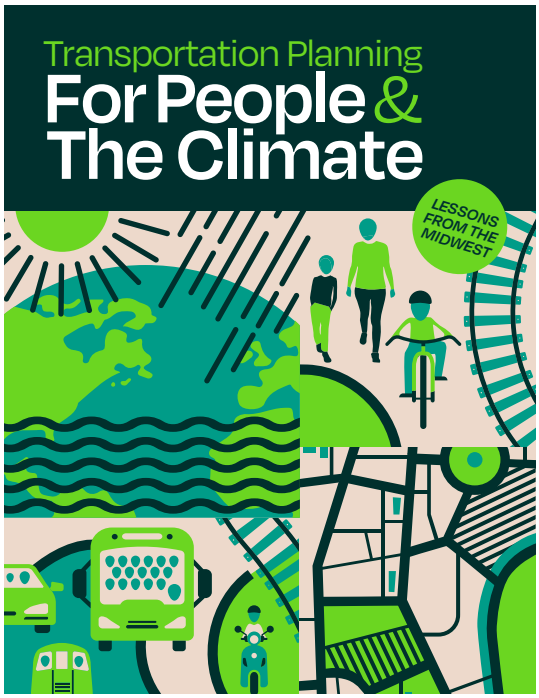
- **Meaningfully engage with vulnerable communities.** *Though comprehensive and transportation planning processes often involve mandated minimum community engagement, meaningful engagement is not only about quantity. Directly partnering with vulnerable communities and being intentional about integrating community feedback are the first steps towards equity.*

Content Recommendations:

- **Shift focus – and funding – from roadways and highways to transit, biking, walking, and rolling.** *It is important for plans to consistently promote climate-aligned strategies, and avoid an "all-of-the-above" approach that results in road system expansion and more emissions. Funding is the most important mechanism to determine where a city's priorities lay.*

- **Add or increase focus on density, walkability, and creating complete neighborhoods that provide access to basic needs.** *These plans have the ability to guide city development for ten years at a time, and livable neighborhoods are important for climate and for people.*

- **Integrate climate and equity considerations into the plan.** *From the start of the process, to its end, city plans have to recognize their contributions to climate and equity problems, and include goals and strategies to solve them.*



What Else You'll Find in This Report

This executive summary is just a preview.
In the full report you'll find:

- *Greater description of the policies studied*
- *Case studies of cities and counties that are leading the way*
- *A word on federal resources*
- *Appendices with comprehensive lists of plans and their recommended policies, as well as a toolkit for evaluating them.*

Please reach out to the report authors with questions or feedback, we'd love to engage!

Introduction

This project is a collaboration within the RE-AMP Network to explore how Midwest jurisdictions are incorporating transportation and climate change into their planning. RE-AMP is a network of 140 organizations with the shared goal of equitably eliminating greenhouse gas emissions in the Midwest. Our work on transportation emissions focuses on enabling people to get where they need to go without having to drive, and on cleaning up motorized transportation.

For this project, our team was specifically interested in the way local climate plans are addressing transportation and conversely, how comprehensive and transportation plans are addressing climate change. Our report looked at select jurisdictions in Illinois, Iowa, Michigan, Minnesota, and Wisconsin, balanced for size and other characteristics such as proximity to a larger metropolitan region and whether universities were situated within the jurisdiction.

We wanted to understand:

- *As a region, how is the Midwest working to minimize climate change through its local planning structures?*
- *How are common concepts integrated across different kinds of plans? Do the different kinds of plans within a given jurisdiction "talk" to each other?*
- *As local jurisdictions consider creating or amending their planning documents, what might they be able to learn from their peers in the Midwest?*

Before we address these questions, we present some context as to why these questions matter and how we went about our research.

Human Cost

It is easy to get lost in the technical merits of a particular policy or implementation approach. Sometimes we are so focused on the details, we lose sight of how a policy or project affects people. Transformative transportation, climate, and land use policies are desperately needed to mitigate the daily harms already taking place in our communities. And while policy documents often describe populations who experience this harm as a whole, they rarely humanize the people who the plans are meant to serve.

Therefore, it is important to say what our policies and plans often fail to acknowledge in stark terms: **the human cost of unchecked climate breakdown will be unthinkable.** The United Nations' Intergovernmental Panel on Climate Change (IPCC) projects between 25 million and 1 billion people will be displaced by climate breakdown by 2050[1]. Even at warming of 1.5 degrees celsius, the IPCC predicts more extreme hot and cold temperatures, heavier rain events and increased flood hazards, and risk of more severe drought—all of which impact people across the globe. More than ever before, people will worry about whether their farms will get sufficient rain to sustain their livelihoods. People will see empty spaces on their grocery shelves as our supply chains are disrupted from flooding. People will be unable to leave their homes without risk of heat stroke, or risk freezing to death if the power goes out. These will be our neighbors in the Midwest and our neighbors across the globe. **We must do everything that we can to mitigate these impacts and prevent these realities from becoming even more commonplace.**

Climate Planning

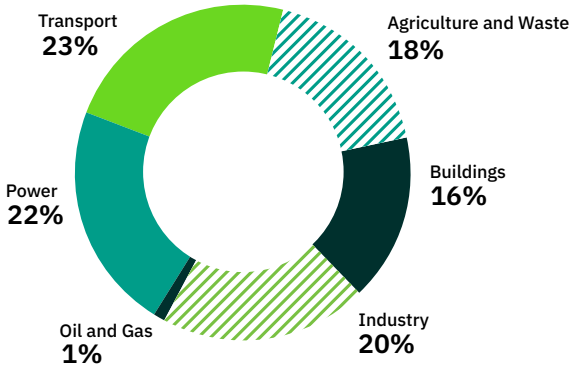
The IPCC estimates that in order to prevent irreversible and catastrophic climate change, we must keep global warming to less than 1.5 degrees Celsius. Many communities across the Midwest recognize the imminent threat climate change presents and are planning accordingly. Climate plans are being adopted across all levels of government. In this report, we looked at local governments that have been addressing climate in their comprehensive, transportation, and climate specific plans. Their proximity to impacts and solutions has made local governments powerful forces for change. In fact, jurisdictions of all sizes—cities, counties, and states—now recognize their role in our changing environment and are presenting solutions to reduce emissions. Yet even in these cases, climate plans are not always well aligned with transportation and other municipal plans, limiting their effectiveness.

1 *Climate Change 2022: Impacts, Adaptation and Vulnerability,* Contribution of Working Group II to the Sixth Report of the Intergovernmental Panel on Climate Change, ed. Hans-Otto Portner, Debra C. Roberts, et al., *IPCC,* (Cambridge: Cambridge University Press, 2022), https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf.

Transportation Planning

In the face of this crisis, it is important to acknowledge that transportation is the **largest contributor of carbon emissions** in the United States[2] (about 27% of all emissions). Emissions from light-duty personal vehicles account for the majority of our total transportation emissions[3]. This holds true across the five states we examined, where transportation is the largest collective source of emissions (see Figure 1). Reducing emissions in our transportation system is critical to heeding the IPCC's dire warning.

Figure 1: Greenhouse Gas emissions by sector for our study area in 2020. Transportation remains the largest cumulative contributor across the five states.[4]



Our transportation system also maintains other inequities, many of which intersect with the racially-disparate impacts[5] of climate breakdown.

- Communities of color and low-income communities are disproportionately affected by transportation and land-use policies that have left these communities exposed to higher amounts of vehicle pollution, left with a lack of transportation choices, and facing **increased risk of pedestrian injury or death**[6], while white communities and affluent communities disproportionately reap the benefits of the existing system.

- Inadequate support of non-personal-car forms of transportation has resulted in a system that fails to meet the needs of many people across the Midwest. This especially harms those who cannot drive, including people with disabilities, older adults, and children who are too young to drive, as well as those who prefer not to drive. Motor vehicle injuries are the **leading cause of injury deaths** among children and young adults.[7]

Electrification alone will not solve this collection of problems. Thoughtful climate, comprehensive, and transportation plans must reduce our reliance on automobiles. By transitioning our built environment to provide meaningful walking, biking, and transit networks, we can create a more climate-resilient and just transportation system in the Midwest.

2 "Fast Facts on Transportation Greenhouse Gas Emissions," *Environmental Protection Agency,* July 14, 2022, https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions.
3 About 57%. See "Fast Facts on Transportation Greenhouse Gas Emissions," above.
4 Data drawn from "ClimateDeck", *Rhodium Group*, October 2022, https://rhg.com/data_story/climate-deck/.
5 "The global climate crisis is a racial justice crisis: UN Expert," *United Nations Office of the High Commissioner,* October 31, 2022, https://www.ohchr.org/en/press-releases/2022/11/global-climate-crisis-racial-justice-crisis-un-expert.
6 Ebony Venson, Abigail Grimminger, and Stephen Kenny, et al., "Dangerous By Design 2022," *Smart Growth America,* July 28, 2022, https://smart-growthamerica.org/dangerous-by-design/.
7 "Injuries Among Children and Teens," *Center for Disease Control,* September 22, 2021, https://www.cdc.gov/injury/features/child-injury/index.html.

Land Use Planning

Cities across the Midwest have been perpetually changing in response to the invented supremacy of the automobile. Sprawling housing tracts make it largely infeasible to access employment, basic goods, or friends and family without a car. Our land use choices have prioritized big box development, office parks, and abundant parking. Our regulations have accommodated cars by building wider streets, and requiring minimum parking requirements, large lot zoning, and unnecessary setbacks. All of these shifts have created a feedback loop between land use and transportation that further supports automobile dominance.

The good news is that this trend can be reversed by incorporating innovative thinking into our land use decision-making. We can review our zoning, subdivision regulations, and comprehensive plans to help redefine how our communities develop. We can focus on building compact, walkable neighborhoods. We can prioritize building communities that provide residents with meaningful transportation options in order to create safer, more sustainable places. This starts with our land use decisions.

Focus on Local

Transportation decisions are made at all levels of government, so why focus on local planning? What role can comprehensive plans, transportation plans, and climate plans play to help jurisdictions address climate change?

The federal allocation of grants drives many of our larger infrastructure decisions. State Departments of Transportation (DOTs) also hold immense sway. However, it is local governments that are the closest to implementation. The majority of roadways, bike paths, and transit routes are controlled at the local level, or can be influenced by local leaders and policy agendas. Local governments also dictate land use, putting them in the position to determine how and where our communities develop. These two levers, land use and transportation, coalesce at the local level. This is why our team decided to focus our efforts here.

The World of What's Possible

In many ways, the path to create a more sustainable system is straightforward. Transportation behavior follows investment, and that behavior can either cause or reduce emissions. When a jurisdiction invests in efficient, frequent, and rapid public transportation, it will draw substantially more riders. When a jurisdiction supports local trips and active transportation, it sees more walking and biking. When a jurisdiction invests in highway expansion, it sees more driving, more sprawl, and more transportation emissions.

The solutions have been readily available for decades and remain as beneficial as ever. A focus on roadway design, sustainable land use, transit, and active transportation will create the conditions to dramatically reduce transportation emissions.

- Roadway design impacts how people will use a road. If street space is reallocated to safe and welcoming walking, biking, and transit infrastructure, it will draw more of these sustainable uses.
    - Right-sizing roads by reducing lane widths and speed limits will slow cars and make travel safer for all users—people walking, rolling, biking, and driving alike.
    - Supporting "Complete Streets" by building quality networks for people walking and biking, and ensuring quality walking connections to transit will also support sustainable transportation.
    - Providing high-quality transit—fast, frequent, reliable service that compares to car travel times—ensures a dignified experience for existing transit riders and ensures that fewer people are forced to drive.
- Land use is another way to address transportation emissions. Jurisdictions can support upzoning by reworking zoning codes to encourage dense, income-inclusionary development near areas with high-quality transit. This will reduce passenger vehicle travel demand, while encouraging sustainable transportation modes.
- Another simple solution is to retool parking requirements by removing mandated minimums for parking and replacing them with parking maximums. If jurisdictions can rethink community design, focusing on infill development by supporting upzoning, they will reduce transportation emissions at the source.

If these solutions seem like simple ideas, it's because they often are. The challenge with sustainable transportation policy is not in discovery or technological advance, but in upending the inertia of the status-quo.

Research Overview: Planning Tensions and Opportunities

This report draws on a review of three types of planning documents – climate plans, comprehensive land use plans, and transportation plans. These three types of plan are all long-term guiding documents which play a role in determining the intentions and direction of transportation decisions.

We reviewed plans across five Midwestern states: Illinois, Iowa, Michigan, Minnesota, and Wisconsin. This included statewide climate and transportation plans, but focused on local documents, reviewing the plans of 20 cities and five counties (see Figure 2). With a preference for communities with climate plans in place, we tried to review a representative sample of larger and smaller, more and less affluent cities and counties.

1. Duluth
2. Minneapolis
3. St. Paul
4. Hennepin County
5. Ramsey County
6. Decorah
7. Ames
8. Des Moines
9. Cedar Rapids
10. Iowa City
11. Dubuque
12. Eau Claire
13. Appleton
14. Dane County
15. Chicago
16. Cook County
17. Naperville
18. Aurora
19. Champaign
20. Carbondale
21. Traverse City
22. Grand Rapids
23. Ann Arbor
24. Oakland County
25. Detroit

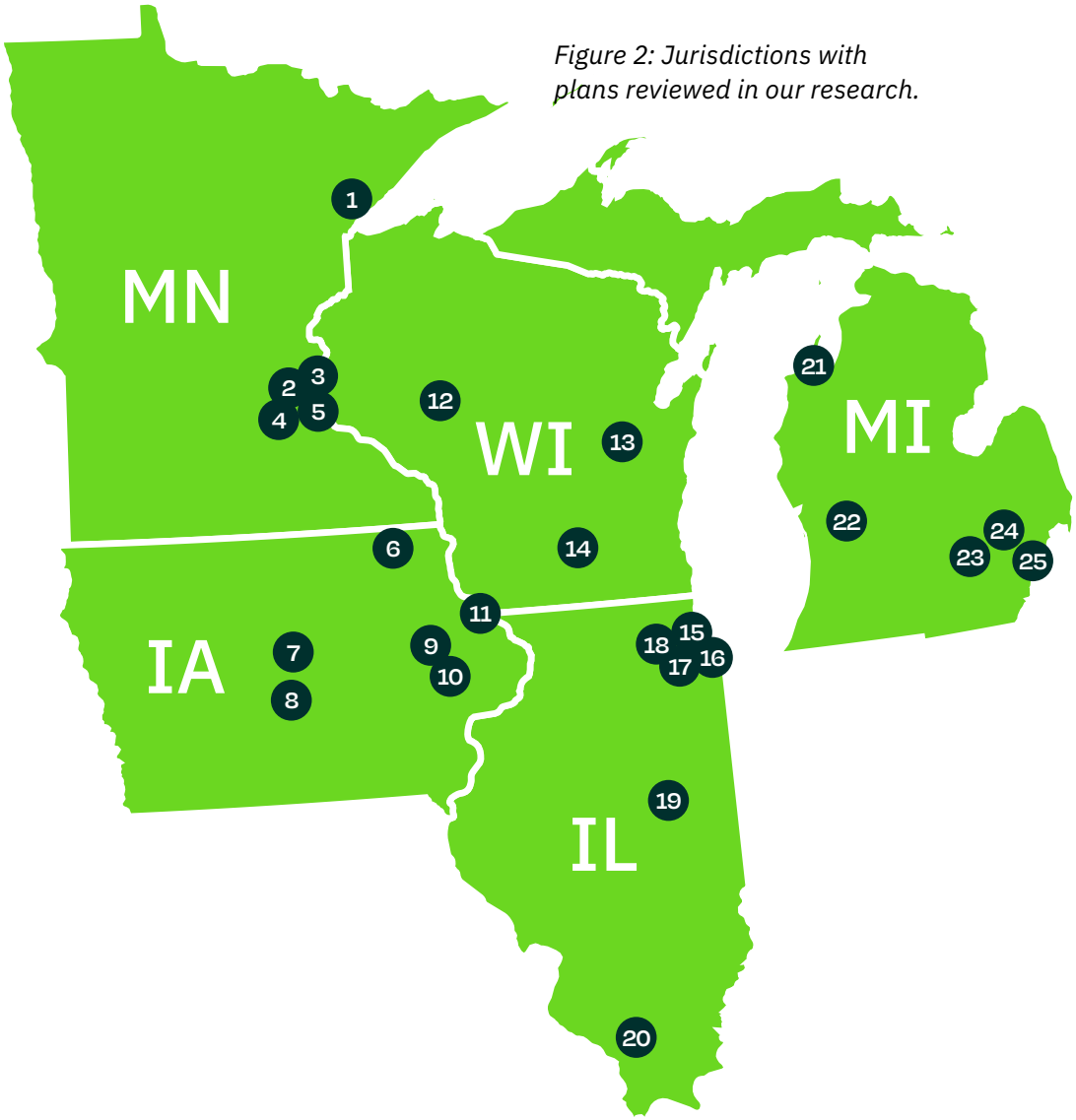


Figure 2: Jurisdictions with plans reviewed in our research.

Not every jurisdiction has all three types of plan. In total, we reviewed: 25 climate plans, including 21 local stand-alone climate action, resiliency and/or sustainability plans, and four statewide climate plans or reports; 21 local comprehensive plans; and a range of 22 transportation plans, including: five statewide long-range transportation plans, 10 Metropolitan Planning Organization (MPO) long-range transportation plans, six local long-range transportation plans and one complete streets plan (see Figure 3). We also reviewed two press releases from jurisdictions announcing the outlines of their in-progress climate plans. So overall, we reviewed nearly 70 planning documents from across the Midwest. The jurisdictions were selected for inclusion with the criteria that they had a climate plan written or in progress, and so a baseline level of climate consciousness is assumed.

We looked at plans from 5 states, 5 counties, and 20 cities.
Since not every jurisdiction had one of each type of plan, we reviewed, in total:

Figure 3: Count of plans reviewed in our research, broken down by plan type.

25
Climate Plans

- **21** Local Plans
- **4** Statewide Plans & Reports

21
Local Comprehensive Plans

22
Transportation Plans

- **10** Municipal Planning Organization (MPO) Plans
- **6** Local Long-Range Transportation Plans
- **5** State DOT Long-Range Transportation Plans
- **1** Complete Streets Plan

NOTABLE CONTEXTUAL CONSIDERATIONS

Authority

Climate and comprehensive plans are typically adopted by city council or county government to provide a foundation for regulation, as opposed to being directly regulatory documents. The transportation plans reviewed in this report included some foundational documents adopted by city council, but also included plans prepared and adopted by MPOs and State DOTs, which allocate budgets, and studies of specific areas.

But on a base level, all three types of plan set the tone and goals for a jurisdiction and its departments – the "vision." They most frequently guide policy by outlining strategies and recommending specific actions for the jurisdiction to implement. On the one hand, this is an inherent source of **tension** and limitation, as the plan itself does not always have direct control over the mechanisms of implementation and change. On the other hand, it presents the **opportunity** inherent in these plans: when the jurisdiction's vision is aligned, substantive action is possible.

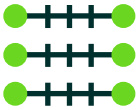
In spite of being vision documents, all three types of plan do also have the freedom to introduce programs and impact policy on a granular level. Examples of these granular policies include things like the instruction to pilot a bike share program, or upgrade traffic signals to be transit-optimized.

Fiscal Constraints

Climate and comprehensive plans are typically not fiscally constrained. They do, however, sometimes demonstrate fiscal awareness by estimating the associated costs of various strategies, considering fiscal resource capacity or funding sources.

Transportation plans we reviewed include both fiscally constrained and unconstrained plans. Unlike the transportation plans of Metropolitan Planning Organizations (MPOs), the majority of transportation documents we reviewed are not fiscally constrained. Within local transportation plans, there can be a mismatch between the strategies suggested and the budgets listed at the end of a document.

A **challenge** of unconstrained plans is that they are less transparent, because it is not always apparent which strategies will be fully implemented. A plan might be full of climate-progressive programs that do not fit into a specific budget, which fall to the wayside when transportation budgets are set and implemented. However, there may be an **opportunity** inherent in unconstrained planning. Drawing on multiple potential funding sources, there is a greater potential flexibility in the range of actions and how quickly strategies can be implemented. It is especially important in unconstrained planning, therefore, for jurisdictions to set clear benchmarks and accountability.



Timelines

These type of planning documents—climate, comprehensive land use, and long-range transportation plans – tend to be developed within slow, long timelines. Comprehensive Plans can take up to three years to write and adopt. Long-Range Transportation Plans set the agenda and budget for up to 25 years in advance. Comprehensive and transportation plans are commonly updated every 10 years.

This represents a **challenge** in the underlying patterns of decision-making about infrastructure. The length of plan development and implementation timelines are inherently conservative, weighted towards the status-quo, and frequently rigid – making it difficult to fund short-term projects in the middle of a period a plan covers.

However, there are often regular update and amendment processes. Additionally, as different plans and budgets are developed separately, along different timelines, there is an almost continual **opportunity** to evaluate what is working, and push forward on successful climate action.

Past Successes

Because plans are generally heavily focused on future strategies, it is atypical for a plan to inventory and list previously-implemented climate-impactful policies, though a jurisdiction itself is generally aware of them and may reference them internally. We note that in some instances, apparent gaps in plans may simply be because those plans have already implemented the relevant specific policies (one example being Minneapolis having already removed parking minimums). That said, our climate action needs at any given time depend on our local and collective progress. The visionary plans of today will need to keep building on these past achievements as our climate needs continue to evolve.

Sequencing

It is critical to note that there is *no particular ordering requirement* for these documents to be written and adopted, as there is in some kinds of jurisdictional decision-making. Sometimes the climate plan precedes comprehensive or transportation plan updates, and sometimes it follows. Some jurisdictions have no transportation specific plan, or no climate specific plan.

This can seem to present a **challenge** for communities attempting to integrate climate into their comprehensive and transportation planning. While some jurisdictions develop climate plans before a comprehensive or transportation plan update, others might think that without a climate plan to look to for guidance, they are unable to set climate-relevant goals and metrics. This inference often stems from an implicit assumption that without an explicit existing policy mandate, action is impossible.

But in most cases in this report, the rationale for positive transportation and land use policies that *also happen to have climate benefits* already exist, and jurisdictions need not wait for a climate-specific rationale to begin implementation. When a climate plan has been developed which lays out emissions or transportation-related goals, it is incumbent on those communities to update their transportation and comprehensive plans accordingly. In other cases, the implementation of positive, climate-beneficial transportation and land use policies can happen before or alongside development of climate plans, which can then later serve to further bolster and deepen the rationale for decisions that prioritize transit, biking, and walking. Each plan, regardless of where it falls in order or its categorization, holds the **opportunity** to be a genesis for climate thinking and a catalyst for climate action.

As jurisdictions continue to update or create their transportation and comprehensive plans, climate goals can and should be included. While planners need not wait for a climate plan to introduce climate thinking into their purviews, there are times when it can be helpful to wait. For example, if the city is in the process of developing a climate plan, there is potential **opportunity** to align the timing of updates to comprehensive plans with the passage of a climate plan to avoid a decade-long delay in including climate goals in the comprehensive plan.

RESEARCH FOCUS: PLAN DEVELOPMENT

Since the research focused on the plan documents themselves, as opposed to their implementation, our findings and recommendations are accordingly limited. The plans present promises, recommendations and intentions. We evaluated the plans on those terms, asking:

- *How was the plan developed?*
- *Who was included in informing and crafting these recommendations?*
- *How integrated are the plans in each jurisdiction? Are climate goals being reflected in comprehensive and transportation plans?*
- *How clear and specific are the plan's recommendations, and to what extent do they further relevant transportation improvements for climate and equity?*
- *How concrete are the commitments, and how direct is their potential for implementation?*

We did not, however, evaluate whether those goals have been met, whether the actions detailed in each plan are on track to be implemented, or who has been included in the implementation process. In some cases, plans that are elevated in this report have not yet made significant progress towards achieving their long-term visions.

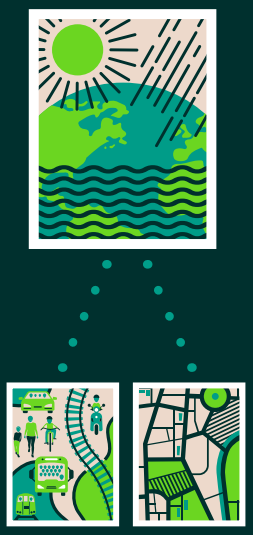
Our recommended strategies are meant to guide the development of the strongest possible climate, transportation, and comprehensive plans. The plans are important tools to make progress an easier and more likely reality. They propose visions of what is possible. They are also capable of hindering progress, reinforcing the status quo, and perpetuating harm. As jurisdictions continue to write and update their climate, comprehensive, and transportation plans, it is important they support a greener and more equitable transportation system.

However, plans are not the be-all-end-all. With a strong plan, a city might know what they should do, but they must still dedicate themselves to its successful implementation. And as noted in the last section, even in the absence of specific goals and directives provided through a climate action plan, meaningful system improvements can be implemented and must be encouraged.

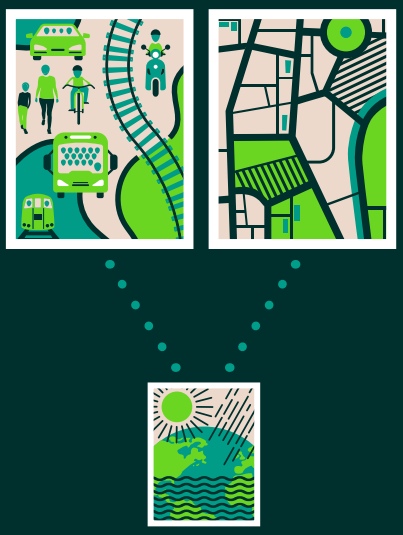
Research Summary

Part A:
Priority Policy and Focus Areas

Part B:
How Climate Plans Address Transportation and Land Use



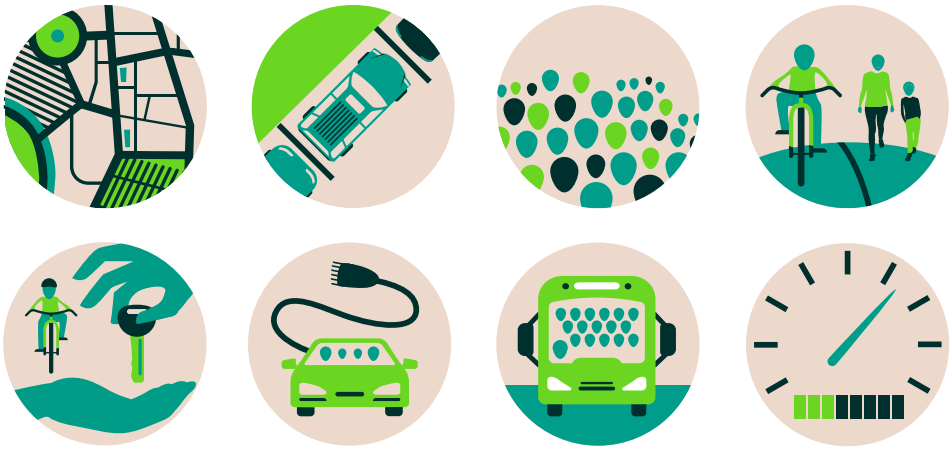
Part C:
Climate in Transportation and Land Use Planning



Research Summary Part A:

Priority Policy and Focus Areas

We began our research by establishing a list of priority policy and focus areas that we analyzed in the climate, transportation, and land use plans, and we articulate at a high level why they matter to climate action and sustainable, welcoming communities. While many readers are already familiar with these to some degree, we feel it is important to establish shared background and understanding around why we prioritized these focus areas. In an appendix, we have provided more information on how effective each is for climate, and how difficult or easy it is to implement. But first, a word on electric vehicles, on which many jurisdictions pin almost all of their strategies when it comes to their transportation-related climate planning.



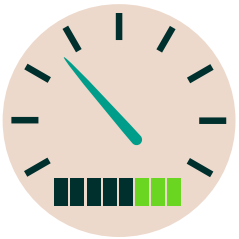
Electric Vehicles (EVs)

Although electric vehicles (EVs) and low-carbon fueled vehicles are an important part of the solution, they alone will not get us to the emission reduction levels we need in the timeframe we need them. **Currently there are over 276 million vehicles** registered in the United States[8]. EVs only represent **6.1% of the total vehicle market** in the US[9].

Even with rapid expansion, we will not be able to switch to a significant number of EVs quickly enough to reduce our transportation emissions in time to meet our goals without incorporating other strategies. It is estimated that on average a typical vehicle **emits 404 grams of carbon per mile**[10], meaning the more vehicle miles traveled (VMT), the more carbon emissions. Therefore, it is critical that climate planning includes VMT reduction goals.

Vehicle miles have increased **more than 5%**[11] over the last decade in Iowa. Carbon emissions from transportation **have increased at a similar pace**, making it especially important that VMT goals are featured in climate plans and reflected in land use and transportation plans.

EVs also fail to alleviate the other harms caused by autocentric development, including disenfranchisement of people with disabilities and others who don't drive, excessive cost burden on low income families, and pollution from tires.



Reducing Vehicle Miles Traveled (VMT)

While vehicle electrification is one useful strategy, it is not sufficient. Articulating goals to reduce driving can change the way we think about transportation. A normal practice in transportation is to measure how many vehicles are using a road each day, and focus our metrics on driving: driver safety, congestion, traffic flow, winter maintenance, and more. These metrics often lead to expanding roads and highways, rather than enabling people to get where they need to go without driving. Setting goals to reduce VMT or single occupancy vehicle (SOV) usage can help us refocus our analysis efforts on things like climate emissions from vehicles, speed and reliability of bus service, percentage of days with clear sidewalks during winter months, capping vehicle level of service (LOS), and serious and fatal injuries to people walking or biking.

8 Statista Research Department, "U.S. Vehicle Registration 1990-2020," *Statista,* July 27, 2022, https://www.statista.com/statistics/183505/number-of-vehicles-in-the-united-states-since-1990/.

9 Zachary Shahan, "Fully Electric Vehicles Reached ~6% of Auto Sales In USA in 3rd Quarter," *CleanTechnica,* October 13, 2022, https://cleantechnica.com/2022/10/13/fully-electric-vehicles-reached-6-of-auto-sales-in-usa-in-3rd-quarter/.

10 "Greenhouse Gas Emissions from a Typical Passenger Vehicle," *Environmental Protection Agency,* March 2018, https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle.

11 For VMT statistics, see "Iowa Annual Vehicle Miles of Travel," *Office of Systems Planning,* June 2022, https://iowadot.gov/maps/msp/vmt/30yearvmt.pdf. For emissions data, see the "Air Quality Dashboard," *Iowa DNR,* https://experience.arcgis.com/experience/f57d1f8a00f1444596d5045ee6dc6798/page/Air-Quality-Bureau/.

Transit

Transit is essential to our climate goals and our standards of living. Transitioning from reliance on private vehicle trips to public transit is arguably the most effective way to reduce emissions from urban transportation while enabling more people to get where they need to go. A robust and effective transit system frees people from the expense and inconveniences of having to drive everywhere, maintain a vehicle, and risk accidents in inclement weather.

Cars, SUVs and pickup trucks make up **around three fifths** of the greenhouse gas emissions from transportation.[12] Transitioning people out of their cars and onto public transit can have a profound impact: If just one person in the household switched their daily 10 mile commute to public transit, **they can save over 4,600 tons of carbon annually.**[13] In addition, most midsize to large cities already have the infrastructure for transit in place, creating a good foundation on which to build out ridership, if given sufficient attention and investment.

Active Transportation (Walking, Biking, and Rolling)

Providing safe and convenient networks for people to walk, bike, and roll is essential in ensuring accessible neighborhoods, healthy communities, and climate pollution reduction from driving. More than **half of daily trips** in 2022 were three miles or less.[14] These trips are some of the easiest for people to change how they get around: a three-mile trip takes an average of less than 15 minutes on a bike, and a one-mile walk takes an average of 20 minutes. These trips become substantially more difficult or even dangerous when our transportation networks are focused so heavily on cars. Roads with more than three lanes become extremely difficult to walk across without a stoplight, and all except the most confident cyclists will avoid biking when they do not have dedicated, protected space. Creating well-connected walking and biking networks are essential for persuading people to drive less and reduce their carbon emissions.

12 "Fast Facts on Transportation Greenhouse Gas Emissions."
13 "Public Transportation's Role in Responding to Climate Change," *U.S. Department of Transportation Federal Transit Administration,* January 2010, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/PublicTransportationsRoleInRespondingToClimateChange2010.pdf.
14 "More than Half of all Daily Trips Were Less than Three Miles in 2021," *Vehicle Technology Office, Office of Energy Efficiency and Renewable Energy,* March 21, 2022, https://www.energy.gov/eere/vehicles/articles/fotw-1230-march-21-2022-more-half-all-daily-trips-were-less-three-miles-2021.

Shared Mobility

Shared mobility is transportation services and resources that are shared among users, either concurrently or one after another.[15] This includes micromobility (bikesharing, scooter sharing); automobile-based modes (carsharing, rides on demand, and microtransit); and commute-based modes or ridesharing (carpooling and vanpooling). Some also define it as inclusive of public transit, though that is less our working definition in this report.

Incentivizing shared mobility is an important part of reducing driving. Without shared mobility options, people who need even occasional vehicle access often feel the need to purchase a car. This creates a "sunk cost" scenario, where people are more apt to drive because they've already put significant financial resources into a particular mode. Shared mobility encourages people to make use of a wider variety of transportation modes. It also changes who has access to sustainable modes: tourists, travelers, and apartment dwellers with limited space are just a few examples of people who may not have another way to access a bicycle without bikeshare.

Parking

Excessive parking is an ineffective use of urban space, making 15-minute cities and walkable communities difficult to achieve and generally reinforcing auto-centric development. And the direct and indirect costs of parking are high, with **indirect costs paid by drivers and non-drivers alike.**[16] Reducing both existing parking and minimizing new parking are extremely important to reclaiming and preserving space for housing, businesses, transit, biking, and walking.

What is a 15-minute city?

A 15-minute city is a place where every resident can meet all of their basic needs within a 15-minute walk from home. This includes things like groceries, education, and healthcare.

The concept of a 15-minute city is critical as active transportation only works if the places people need to go are actually within walking or biking distance from home.

15 Based on a definition from the Shared Use Mobility Center. For more information, see "What is Shared Mobility," *Shared Use Mobility Center,* https://sharedusemobilitycenter.org/what-is-shared-mobility/.

16 Evan Goldin, "A Cheat Sheet on Professor Donald Shoup's groundbreaking work," *Parkade,* October 1, 2022, https://parkade.com/post/donald-shoup-the-high-cost-of-free-parking-summarized.

Land Use

Urban sprawl is a key factor for the increase in vehicle miles traveled and increases in transportation emissions. Dense cities produce lower CO2 emissions from vehicles on a per capita basis than less dense or sprawling cities. Sprawl means people have to drive further and drive more to get what they need or to get to work[17].

Responsible land use can not only create growth and development patterns that reduce emissions, land use can also be used as a tool for climate resilience and carbon sequestration. The bottom line is that without reducing the distance that people have to drive, communities will not see significant reductions in greenhouse gas emissions.

Community Engagement and Equity

Community engagement and equity are two key components of any good plan. Though both of these topics are of critical importance, we are putting them together, as we believe authentic community engagement is the first step towards ensuring equity is at the center of any plan.

Creating surveys in multiple languages, partnering with organizations that already work with and are led by members of vulnerable communities, and finding engagement strategies that meet the needs of all residents is important to ensure that no one is being left behind.

Not only should plans create specific metrics to determine the positive and negative impact actions could have on vulnerable communities, but they should also build in specific actions to mitigate existing harms, for example by reconnecting neighborhoods and reducing air pollution. While they do so, they must also ensure that changes and improvements mitigate negative impacts such as displacing vulnerable community members.

17 Emily Mangan et al., "Driving Down Emissions," *Transportation for America,* October 2020, https://t4america.org/wp-content/uploads/2020/10/Driving-Down-Emissions.pdf.

Research Summary Part B:

How Climate Plans Address Transportation and Land Use

Many jurisdictions across the Midwest are adopting climate plans. These plans are designed to set goals for mitigating greenhouse gas emissions while also building in adaptation and resilience strategies. Climate plans can set aspirational goals for communities that then need to be incorporated into policy and implementation plans.

Goals within a climate plan detail emission reductions and set out strategies on how to achieve those reductions.

Climate plans can set the tone for how we get around in our communities and how we re-envision land use within them. Because much of the population lives within urban areas, the climate goals set by urban and suburban jurisdictions can have a big impact on climate mitigation.

In the Midwest region of the United States, transportation contributes to nearly a quarter of total greenhouse gas emissions, the second largest source of emissions in the Midwest region. It is critical that transportation is a key focus of any climate plan in the Midwest. Our land use patterns determine our transportation methods, and must also be featured prominently in climate goals.

Transportation and Land Use Trends Across Climate Plans

We reviewed 25 climate plans, specifically looking at how transportation and land use were included as part of the plans. The plans had varying degrees of strategies and details, and varied widely in how they handled transportation and land use.

- Transportation was included in all of the plans reviewed. However, transportation did not always play a prominent role.
- The role of land use was often less prominent in climate plans and in some cases it was non-existent. This is troubling considering the way land use influences how we get around in our communities.
- Expanding electric vehicles, alternative fuels, and the infrastructure to support them, was one of the most prominent transportation emissions reduction strategies included in all of the plans drafted after 2014 .
- Strategies to decrease the amount people drive, often referred to as vehicle miles traveled or VMT, were included in most plans with a variety of strategies including expanding transit, rideshare/shared mobility, micro-mobility, active transportation like walking and biking, and reducing the distance that people have to drive to get somewhere.
- Few plans dealt with freight, passenger rail, highway removal or mitigation, or anti-idling. Grand Rapids, MI stands out as the only climate plan that mentions a “No New Roads” policy. Otherwise none of the other plans explicitly sets a goal to limit highway or road construction. Limiting new highway construction is an important goal towards reducing emissions from transportation.
- Many plans over-emphasized the role of electric vehicles and alternative fuels compared to reducing the amount we drive (vehicle miles traveled or VMT). Two plans *only* had goals around switching to electric vehicles. The chart below highlights the prevalence of key strategies to reduce emissions from transportation in the climate plans that were reviewed (see Figure 4).

On the next page, we dive more deeply into each of these elements of plans, as well as trends within each element across the plans. For more information about the policies we discuss, see the section on policy priorities.

At a Glance: Clean Transportation in Climate Plans

Figure 4: A summary of the transportation and land use sections of the 25 climate plans reviewed in our research. Each box represents a plan, evaluated on whether it addressed a given topic, and the strength of its recommendations.

Plans with: Measurable Targets | Specific Strategies | Only General Language | No Reference

Transportation Section

25

Knowing that transportation is a major source of GHG emissions and an integral facet of people's lives, including a transportation section with specific strategy recommendations is a baseline for climate plans.

VMT/SOV Reduction

7 | 5

Setting targets to reduce Vehicle Mile Traveled or single occupancy vehicle share frames necessary action in terms of getting people to drive less - which is necessary to reduce greenhouse gas emissions from transportation.

Transit

8 | 6 | 9

Climate plans accurately identify expanding public transportation as a key goal.

Active Transportation

6 | 9 | 7

Enabling safer active transportation, like walking and biking is also a cornerstone.

Shared Mobility

3 | 6 | 3

Bikeshare programs can be important supports for people who don't drive and carsharing can minimize costs of car ownership.

Parking

8 | 4

Eliminating parking minimums and reducing cars' dominance over land use makes neighborhoods more livable and encourages cleaner transportation.

Smart Growth

2 | 3 | 8

Focusing development on inward growth makes people less car-dependent, reduces vehicle emissions, and can make neighborhoods more livable and cities more resilient.

EV

7 | 5 | 8

Electrifying vehicles can be helpful to reduce air pollution and greenhouse gas emissions. However, expansion must be carefully and equitably implemented, and always in conjunction with strategies like above, to equitably reduce how much people drive.

Community Engagement and Equity

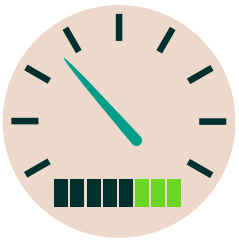
The majority of plans reviewed discussed some form of community engagement to gather input or feedback on the plans. However, many of the plans focus on community surveys. Surveys can work if there is intentionality around how to engage the most vulnerable residents in a community.

Take Cedar Rapids, for instance, where the majority of respondents to an initial survey were white and/or middle to higher income individuals. The city adapted by specifically focusing a second round of surveys on communities of color, seniors, low to moderate income residents, and vulnerable neighborhoods. They also conducted focus groups within these communities.

Another example is in Minneapolis, where the city worked with Environmental Justice (EJ) organizations and created an EJ task force to help engage communities that are often left out of the discussion. Taking the extra step to partner with EJ organizations or other partners that work with vulnerable communities to ensure greater community input and engagement is an important first step to ensuring that the plan will meet the needs of those most impacted by climate change, and also helps to set the tone that vulnerable communities will be prioritized within the plan.

Most of the plans (or the websites the plans are located on) claim a desire to center equity. However, very few of the plans discuss specific metrics for determining or prioritizing equity. The Minneapolis climate plan specifically states it will create equity metrics for reporting. Using equity tools to weigh actions is important to ensure that our climate actions will not continue to do harm to vulnerable communities, and to mitigate harm already done.

One other important factor is to ensure that funding is focused on vulnerable communities. For example, Michigan has a goal that 40% of climate funding must go to disadvantaged communities. Specific timeline and fiscal constraints help to ensure equity will remain a focus of these plans.



Reducing Vehicle Miles Traveled (VMT)

Though most of the plans incorporate strategies that will ultimately reduce VMT if implemented, such as expanding transit and active transportation, only 12 of the plans specifically have reducing vehicle miles traveled or single occupancy vehicle (SOV) usage as a goal itself. Of those 12, only six plans set specific numeric goals to reduce VMT and two to reduce SOV usage. The specific goal is important because it creates a way to measure progress. It also creates accountability for progress.

Outstanding VMT goals

Several jurisdictions have truly visionary goals around reducing driving and VMT.

Ann Arbor, MI
50% reduction by 2030

Cedar Rapids, IA
15% by 2030
45% by 2050

Naperville, IL
4% per year

Transit

In the case of several plans, the most frequent suggestion made during the public comment period was expanding and improving public transit. So it is not surprising that these strategies are included in 23 of the 25 plans reviewed. However, of these, only eight have set measurable targets. An additional six plans include specific strategies around transit without measurable targets. The other nine plans only mention expanding transit but lack measurable targets or specific strategies. For a full list of which jurisdictions have which transit-related goals, see Appendix B: Plan Details (p.59).

Some key strategies mentioned include:

- Bus Rapid Transit lines
- Dedicated bus lanes
- Zero-fare lines
- Commuter incentives to take public transit
- Evaluation of routes and frequency to ensure access
- Increased frequency of routes to a minimum of 30/15 minutes
- Added amenities to high use stops

Fast, frequent, reliable transit is key to serving existing riders well and growing ridership. Nine of the climate plans reviewed specifically mention increasing frequency. Of these nine, Minneapolis, MN and Dubuque, IA include the most detailed strategies and metrics to do this.

A key challenge facing transit systems is a ridership decrease since the onset of the COVID-19 pandemic, when many riders across jurisdictions were encouraged to minimize transit use for public safety reasons. Even before COVID, transit systems faced significant challenges that impeded their ability to provide quality service. State and local jurisdictions have often significantly under-funded transit for decades, resulting in negative rider experiences such as long wait times, and unreliable pickup times, all of which impact transit's ability to retain riders over time.

Another challenge to meeting these goals is that in many states, the state code dictates how transit is funded. These state codes can make it difficult for communities to find creative ways to invest in transit operations.

18 For more information see Stephen Kenny, "Transit funding in the infrastructure bill: what can it do for me?," T4Blog, *Transportation for America,* January 25, 2022, https://t4america.org/2022/01/25/transit-funding-infrastructure-bill/.

19 Jim Lefko, "VIA attributes increased ridership numbers to more frequent bus service on 18 key routes," New4SA, *NBC*, January 29, 2020, https://news-4sanantonio.com/news/local/via-attributes-increased-ridership-numbers-to-more-frequent-bus-service-on-18-key-routes.

The Infrastructure Investment and Jobs Act provides an opportunity for communities and regions to upgrade buses and transit facilities.[18] However, it does not include funding to expand service and increase frequency. Increasing frequency of service and shorter route times has been shown to increase ridership in cities that invested in operations changes. A good example: San Antonio, Texas is one city that invested in increased transit frequency and saw a 20% increase in ridership in just a few months.[19]

Active Transportation

Active transportation (walking/biking/rolling) or Complete Streets (streets designed for the safety and convenience of all users) appear in 22 of the 25 plans reviewed. As with transit and VMT, few of the plans include measurable goals or targets. But despite not having specific targets, many of the plans do mention specific strategies to expand active transportation. For a full list of which jurisdictions have which transit-related goals, see the Appendix. Some specific strategies include:

- Add bike lanes to roadways
- Fill in sidewalk gaps
- Make 100% of the sidewalks ADA compliant
- Increase bike capacity on bus and trains
- Connect new and existing bike paths
- Add bicycle and pedestrian friendly signage
- Ensure maintenance of sidewalks and bike lanes from snow/leaves

Two plans stand out in terms of equity with active transportation, as both discuss meeting the needs of all of the residents at the neighborhood level.

Cedar Rapids, IA discusses the goal to become a 15-minute city, prioritizing vulnerable neighborhoods in terms of implementation. Minneapolis, MN sets a goal to create livable, walkable/bikeable safe neighborhoods that meet the needs of all residents, including mixed income, business, and cultural opportunities. Minneapolis has another unique feature of limiting or prohibiting driveways in walkable neighborhoods to increase safety.

Both plans recommend changes to the zoning code to ensure these goals can be implemented.

18 https://news4sanantonio.com/news/local/via-attributes-increased-ridership-numbers-to-more-frequent-bus-service-on-18-key-routes
19 https://news4sanantonio.com/news/local/via-attributes-increased-ridership-numbers-to-more-frequent-bus-service-on-18-key-routes

Shared Mobility

Shared mobility options are included in 12 of the 25 plans that were reviewed. Four of those plans include goals around carsharing and ridesharing. In general, shared mobility strategies are vague and include either introducing a new shared mobility option or expanding existing shared mobility.

Parking

Parking was not a strong feature of many climate plans, in spite of being a powerful factor in transportation patterns. This gap highlights a potentially huge problem, given that significant amounts of public and private space are given over to car storage in cities. However, the lack of addressing the role of parking in plans is not universally a cause for alarm: Minneapolis, MN is an example of a city that has already amended the city code to remove parking minimums, ensuring projects are able to right-size parking when appropriate.

Among the plans reviewed, Eau Claire, WI is an example of a plan which lists reducing parking and parking minimums as a strategy. Ann Arbor, MI mentioned increasing parking rates. Three cities (Grand Rapids, MI; Iowa City, IA; Aurora, IL) mention managing parking options in different ways in their plans.

Land Use

Though land use and transportation are inextricably linked—as evidenced by the second half of this report—land use goals do not figure as prominently in many of these climate plans. This is a missed opportunity within the climate plans. Increasing transit oriented development, density, mixed use development, and affordable and diverse housing options are the leading goals that climate plans mentioned for land use. One plan stands out for land use: Eau Claire, WI. The plan not only mentions reducing urban sprawl, but has specific goals, strategies, and action steps for land use. And it also mentions revising the comprehensive land use plan to support the goals and strategies in the climate plan.

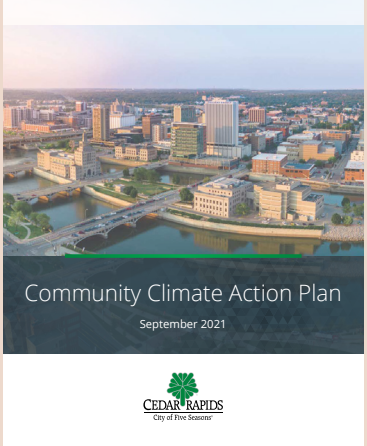
State Level Goals

As we noted at the beginning of our report, local jurisdictions are closest to implementation and control the majority of roadways and other public space used for transportation. However, it is important to contextualize our work within the constraints of state level plans, which can serve to accelerate climate-friendly actions or hamper progress in favor of the status quo. This is certainly true at the federal level as well—but while the federal policy is relatively static across states, state level policy is much more variable.

All five states have a climate action report or legislation that recommends a path to reducing emissions on a statewide level. The state plans' transportation sections are largely focused on electric vehicles and EV infrastructure.

One of the highlights of the Wisconsin Governor's Task Force on Climate Change plan is the recommendation that a climate and environmental justice assessment must be done on any transportation projects. This is a somewhat unique recommendation that should be adopted by other states.

State level plans should be improved by increasing focus on transit, active transportation, and land use; recommending code changes and funding targets; and providing guidance for state DOTs and other agencies on how to implement key portions of the plan to support VMT reduction, transit, and other strategies in addition to EVs.



Case Study

Cedar Rapids Builds Towards Walkable Neighborhoods

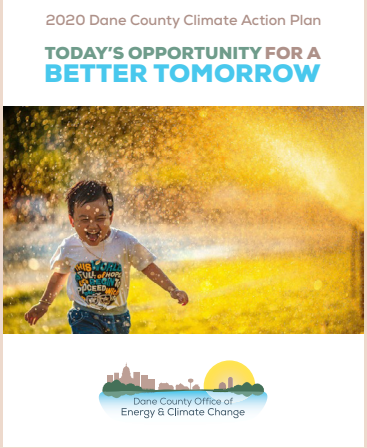
Cedar Rapids, IA is a great example of incorporating critical land use and transportation goals into a climate plan with a focus on both equity and feasibility. They analyzed how to improve the quality of life for vulnerable residents through land use and transportation best practices – specifically creating walkable, mixed use neighborhoods.

The city started with a 2030 Vision goal: to create "sustainable development policies to support walkable core neighborhoods, where basic needs can be met in a 15-minute walk. More living and working options support affordability, resilience, entrepreneurship, and neighborhood identity."

The city's process was to create a series of four action steps to meet this goal:

1. Update land development regulations to expand missing middle housing and neighborhood scale commercial opportunities throughout the city.
2. Create a sustainable development policy that defines the characteristics of a 15-minute neighborhood and develops guidance and incentives to fill in missing amenities and features, prioritizing vulnerable neighborhoods.
3. Enhance transit and shared transportation options (micro-mobility and car-sharing) in under-resourced communities and high priority transit locations.
4. Enhance the Complete Streets Policy to further community education and prioritize urban heat island mitigation and tree plantings in vulnerable neighborhoods.

In addition to being great policy and actions for transportation and land use, the plan did a great job of: incorporating resources and potential funding; providing examples of other communities that have done something similar; naming who would be the project lead; listing key stakeholders, adding a timeline; and listing expected impacts and equity outcomes. This model is a great example for other jurisdictions on goals not only to create accessible, walkable neighborhoods, but how to achieve those goals as well.



Case Study

Dane County Centers on Equity

Dane County, WI is a great example of keeping equity at the core of the process for creating the climate plan, and having that translate to the plan's strategies and outcomes. In their plan, they not only articulate the costs of an inequitable transportation and land use system, they also articulate how to make the system more equitable.

The plan specifically lays out pollution-mitigation strategies that produce revenue (such as tolls and mileage-based fees) and focuses those resources on underserved communities to improve transportation options and offset transportation costs for residents.

According to Keith Reopelle, the former director of the Office of Energy and Climate for Dane County, the equity piece was a huge emphasis right from the beginning. They worked with the University of Wisconsin to complete trainings on public health and equity outcomes, and collaborated on strategies to center equity into all of the working groups and proposed solutions.

The plan was overseen by a 37 member council made up of both the Dane County Committee alongside local business and equity leaders like Urban League and Dane County Office of Equity and Inclusion. They also created working groups that were more agile and able to focus on specific details for the plan.

Keith Reopelle says, "We knew equity had to be represented in all the sectors and all aspects of the plan. So it couldn't be siloed into a separate work group, there was an effort to make sure that an equity leader was in each of the working groups."

Wesley Sparkman, director of Equity and Inclusion for Dane County, adds, "The working groups were each tasked with at least considering equity as it relates to their topic, and that was a good strategy. Of course there needs to be ongoing discussion and involvement where we can, and hopefully we'll continue to work on these issues all together. But I'm very pleased that we had a place and a voice at the table."

Process Recommendations for Creating Climate Plans

Each of the communities we looked at should be congratulated for adopting plans to reduce climate emissions. More and more communities recognize the importance of adopting these plans, and that is a good thing. And as with any shift in practices, there are going to be missed opportunities and lessons learned that should be applied to future plans. Below are some of our recommendations for creating or revising climate plans.

- **Provide specificity**. Many of the plans made general goals such as increasing transit ridership, but lacked specific numeric targets, action steps, or timelines that make the plans stronger and provide more accountability. Though it is important for plans to have some flexibility to allow for changes that reflect new technologies or changing community needs, without specific metrics and action steps, the lack of guidance makes implementation more difficult and the lack of metrics makes it more difficult to measure progress and success, or ensure accountability.
- **Ensure goals, strategies and actions are time bound.** Adding time bound targets helps jurisdictions set priorities and adds a layer of accountability to the plans. It helps to ensure goals are not put off indefinitely. And, it helps jurisdictions budget for expenses incurred.
- **Include fiscal planning and constraints.** One of the pieces that is missing for many of the plans is a plan or a recommendation to help determine how actions and strategies will be paid for. These changes cost money—as does upholding the status quo of transportation infrastructure. When we fail to allocate time or consideration as to how we might shift resources from climate-polluting infrastructure to climate-sustainable infrastructure, we set our commitments up to fail.
- **Expand the scope of the plan's transportation outlook.** Many of the plans have a narrow focus for the transportation system. Most of the plans lack goals on freight, rail, and air.

Content Recommendations for Climate Plans

As jurisdictions try to meaningfully reduce their overall climate emissions, some of the key strategies they can use to reduce transportation and land use emissions at a higher rate include:

- **Include VMT reduction goals.** Setting specific goals to reduce how many miles people travel in a car is critical to reducing emissions. Setting a specific goal and timeline with key strategies, actions, responsible parties, and jurisdictional barriers is critical and ensuring that these goals are reflected in comprehensive plans and transportation plans cannot be overlooked.

- **Ensure Complete Streets policies have a modal hierarchy with teeth**. While many jurisdictions have some kind of Complete Streets policy noting the importance of having walking, biking, and transit options in a community, many policies lack enough specificity to be enforceable.

- **Limit highway construction and prioritize density, transit, walkability/bikeability, and shared mobility.** This includes investing in highway removal to reconnect neighborhoods and ensuring transit systems have reliable, frequent, and safe transit and transit stops (lighting, snow removal, heat, restrooms). Jurisdictions can also benefit from focusing on changes that promote walkable or "15-minute" cities by doing things like upzoning, or eliminating parking minimums and enacting parking maximums.

- **Promote mixed use, mixed income, walkable neighborhoods with a variety of housing choices that retain residents.** Encouraging and focusing on transit-oriented development, as opposed to car-oriented development, is crucial. So is creating growth boundaries that prioritize density and reduce or stop urban sprawl. Jurisdictions should also integrate protections against displacement caused by rent increases or other factors.

- **Acknowledge EVs as a small part of the solution, and then make sure to go beyond them.** Though EVs are a helpful tool to reduce emissions, they must be treated as a small portion of the solution. Plans must work to counter the problem of induced demand, and provide true mode choice.

Research Summary Part C:

Climate in Transportation and Land Use Planning

Transportation and land use planning have an inextricable relationship. While the threads of transportation run through many aspects of the built environment, it is the design of our communities that most impacts how people travel. Whether people are walking, biking, taking transit, or using their personal automobile is largely determined by how easy it is to access a place and how far away it is located. If places have a variety of land uses and densities, people are more likely to use a mode besides a car. However, if uses are separated by many miles and surrounded by infrastructure hostile to pedestrians like parking lots and highways, it becomes very difficult to travel by any means other than a personal automobile. Our team placed an emphasis on plans that explored the interconnection between land use and transportation, celebrating those communities which strived to bring their land use and transportation goals in sync.

In addition to comprehensive plans, larger jurisdictions will usually have dedicated transportation plans. These plans dig into the fine-grained details and are usually more prescriptive in their transportation goals than comprehensive plans. Again, many of the transportation plans in our study made references to climate change, but the documents ranged from mere lip service to meaningfully shifting funding to address emissions.

Much of a community's future land use is determined by its comprehensive plan. Comprehensive plans often mention climate change, but few devote serious consideration to the topic, despite being forward-looking documents. Moreover, several plans focus on adaptation to climate change, rather than mitigation. While adaptation is critical, jurisdictions should take a more proactive approach, realizing they are an integral part of the solution as well.

Climate Trends Across Transportation and Comprehensive Plans

At the local level, many comprehensive and transportation plans reference the environment. These vary from passing references to sustainability, mitigation, and resilience to directly referencing climate change and making it a cornerstone of their plans. Thirty-seven of the 43 plans made a specific reference to climate change and the need to reduce transportation emissions. Our team was delighted to see that some plans had substantial goals that included shifting the balance of funding and priorities towards active transportation, reducing vehicle miles traveled (VMT), and incorporating emissions reductions into freight standards. Unfortunately, six comprehensive and transportation plans did not mention climate change at all.

For plans that center climate change in their transportation and comprehensive plans, look at: Minneapolis, MN; Ann Arbor, MI; Grand Rapids, MI; and Dane County, WI.

Tying Climate to Community

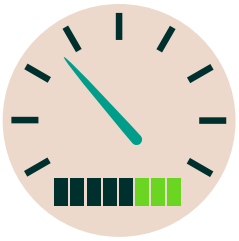
The Grand Rapids, MI transportation plan took a unique approach by having five individual working groups that focused on different street users. Working over the course of a year, these groups worked in concert with other plans, including Grand Rapids' comprehensive and transportation plans. This led to very specific goals around street types, mode share, connectivity, decreasing VMT and emissions. This unity between community plans is commendable, and definitely a best practice to be replicated.

Some plans worked within a federal framework that reflected the language and goals of the Fixing America's Surface Transportation (FAST) Act.[20] While the FAST ACT does discuss the environment more broadly, it does not specifically mention climate change. The FAST ACT was a federal long-range transportation plan which ran from 2016-2020 and had few positives from a climate or livability perspective. While using the FAST ACT as the foundation of a report does allow some compatibility with federal funding sources, it is not ideal given the FAST ACT's lack of aggressive climate change action.

20 See "Fixing America's Surface Transportation Act," *Federal Highway Administration,* https://www.fhwa.dot.gov/fastact/. For an example of a transportation plan that reflects the environmental goals of the FAST Act, see the "Dubuque Metropolitan Area Study (DMATS) Long Range Transportation Plan 2050," October 14, 2021, https://www.eciatrans.org/DMATS/pdf/DMATS%20LRTP%202050%20Adopted%2010-14-21.pdf.

The strongest goals came from those plans that made specific emission or VMT reduction goals, and worked to build policy to achieve their target. Eight comprehensive plans stated a specific numerical goal, with two going even further and setting a timeframe to reach their goal. Seven transportation plans made specific reduction goals, and five were numerical, time bound targets. Our team considers these specific, measurable goals to be the gold standard for integrating climate into transportation and comprehensive plans (see Figure 5, on p.48).

Below we discuss which policies were most or least prevalent in the transportation and land use plans we reviewed. For more detail on the policies, see the section on policy priorities.



VMT

Though most of the plans incorporate strategies that will ultimately reduce VMT if implemented, such as expanding transit and active transportation, only 19 of the 43 plans studied in this section specifically mention reducing vehicle miles traveled or single occupancy vehicle (SOV) usage. We believe that having specific numeric goals for reducing VMT and SOV usage is important for a number of reasons. The specific goal creates a way to measure progress. It also creates accountability for progress.

Outstanding VMT goals

Few jurisdictions have specific and measurable VMT reduction goals within their comprehensive and transportation plans, but one stands out.

St. Paul, MN
Comprehensive Plan
Reduce VMT by 40% by 2040

Transit

The most common clean transportation strategy found in comprehensive and transportation plans was expanding and improving transit, showing up in 40 of the 43 plans reviewed. However, of these plans, only nine plans have set measurable targets. An additional twenty-one plans include specific strategies around transit. The other ten plans only mention expanding transit but lack measurable targets or specific strategies.

Active Transportation

Tied for the most popular strategy was active transportation (walking/ biking) and complete streets. This strategy also appeared in 40 of the 43 plans reviewed. Few plans had specific measurable goals (8 of 43), with most plans focusing on specific strategies (28 of 43). The other four plans only mention improving walking and biking without measurable targets or specific strategies.

Shared Mobility

Shared mobility options are included in 12 of the 43 plans that were reviewed. In general, shared mobility strategies are vague and include either introducing a new shared mobility option or expanding existing shared mobility.

Land Use

Given that land use is a key component of city comprehensive plans, and is deeply relevant to transportation planning, it is notable how few comprehensive and transportation plans include specific targets or strategies for smart growth, reducing sprawl, improving walkability and mixed use development. While 22 out of 43 plans do make some mention of sustainable land use strategies, 17 plans only include general and vague goals such as “Support policies to reduce sprawl” (see Appendix B: Plan Details, p. 63). This is a critical area for improvement. Specific goals like in the Champaign Comprehensive Plan – “Residents should live within a mile of commercial uses where they can satisfy everyday needs” – or maps or a street design guide that encourage infill and transit-oriented development in specific locations in the city can make a significant impact.

Parking

Parking reduction goals of 17 of the 43 plans. Reducing both existing parking and minimizing new parking are extremely important to reclaiming and preserving space for housing, businesses, transit, biking, and walking. Unfortunately, five of the 43 plans included goals to expand the amount of available parking, making a commitment that would increase impervious surfaces and transportation emissions.

Community Engagement and Equity

Almost all of the comprehensive and transportation plans reviewed discussed forms of community engagement they undertook to gather input or feedback on the plans – including surveys, stakeholder groups, public presentations, and draft comment periods. It is also important to note that comprehensive and transportation plans frequently have mandatory minimum community engagement processes by state or federal law. However, as mentioned in the section on community engagement and equity with regard to climate plans, even extensive processes or surveys with lots of respondents are not necessarily meaningful for equity unless they are also intentional about how to engage the most vulnerable residents in a community.

Like the climate plans, most of the transportation and comprehensive plans claim a desire to center equity, and many include equity as one of their orienting goals. However, fewer of the plans discuss specific metrics for determining or prioritizing equity.

An important way comprehensive and transportation plans have to ensure equity is to gear recommendations and funding to target vulnerable neighborhoods and populations. Many of the comprehensive and land-use plans include some recommendations specifically intended to benefit vulnerable populations, such as commitments to make sidewalks and transit stops ADA compliant, encourage infill and affordable housing near transit, or prioritize infrastructure improvements in lower income or EJ communities.

Nevertheless, few of the comprehensive and transportation plans reviewed successfully align the entire plan to work in service of equity, and sometimes even alongside positive goals to center equity, proposals to expand highways appear, which tend to perpetuate harm.

The comprehensive plans of Grand Rapids, Michigan – both *GR Forward* (2015) and their Strategic Plan (2019) – are good examples of plans that show their dedication to equity by trying to align all their strategies toward advancing equitable outcomes. This includes an overall goal of equity, evaluation of racial disparities in their city, and repeated commitments to prioritize transportation solutions within Neighborhoods of Focus. It also includes making transit and transportation more affordable, making the transportation system fully ADA compliant and more accessible, and even exploring downgrading a highway which has been harmful for walkability and for the community.

Minneapolis takes a strategic approach on engagement

From 2018-2020, Minneapolis, MN engaged residents and stakeholders to create the *Minneapolis Transportation Action Plan* (TAP). Minneapolis was determined to ensure that its engagement process could sufficiently represent the many groups of people who use its transportation system. Multiple departments coordinated to host community dialogues that were grounded in culturally-specific communities and provided translation. They also recognized the limits of their own relationships and expertise, and contracted with community groups embedded in priority communities such as high school students, college students, and people with disabilities. They also hosted racial equity conversations specific to the TAP after the Minneapolis Police Department murdered George Floyd. These were an important and strategic complement to capture and prioritize perspectives beyond what was shared through surveys, online engagement opportunities, and open-house style events.

State Level Plans

Throughout this project we strove to look at communities and jurisdictions of all sizes. This included transportation plans made at the state level. Our team thought it was especially important to consider Department of Transportation (DOT) plans because these enormous institutions oversee the entire transportation system of a state. Given this huge responsibility, DOTs will play a critical role in addressing climate change. Unfortunately, our findings show a mixed bag.

These plans focused on mitigation and lacked specific and measurable targets. The discrepancy between state climate solutions and highway funding left much to be desired.

One of the highlights, however, is found within Illinois' long-range plan, which is the best model of the plans. It specifically calls out the need to reduce single occupancy vehicle travel and devotes a section to adapting to climate risks. It represents a shift towards thinking about multimodal planning, equity, and liveability.

State level transportation plans should be communicating with and taking inspiration from their climate plan companions. Many could be improved by expanding goals beyond EVs, including specific goals to reduce highway spending, and to provide measurable targets that support VMT reductions, transit funding, and active transportation infrastructure.

At a Glance: Clean Transportation in Comprehensive and Transportation Plans

Figure 5: Summary of climate-relevant topics, as discussed in the 43 comprehensive and transportation plans reviewed in our research.

Plans with: *Measurable Targets* *Specific Strategies* *Only General Language* *No Reference*

Climate Aims

Knowing that climate change is an imminent threat and transportation is a major source of GHG emissions, indicating some commitment to climate is a baseline for comprehensive and transportation plans. How many of the plans mention climate, and how strongly?

VMT/SOV

Setting targets to reduce vehicle miles traveled or single occupancy vehicle share frames necessary action in terms of getting people to drive less - which is necessary to reduce greenhouse gas emissions from transportation.

Transit

Improving transit service is a part of most of these plans. The question becomes: which strategies do they rely on, and how much do they prioritize transit?

Rail

Though frequently not under local jurisdiction, these plans include support for improved rail service.

Active Transportation

Enabling safer active transportation, like walking and biking is also a cornerstone, with the focus likewise shifting to methods and prioritization.

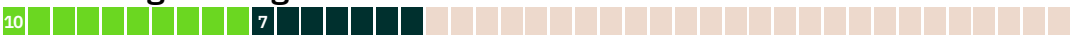
Shared Mobility

Shared mobility goals, like introducing bikeshare programs, can be important supports and encouragement for people who don't drive.

Smart Growth

Comprehensive plans set the tone and agenda for cities' land use decisions years out. How many commit to increasing density, or developing around transit?

Minimizing Parking



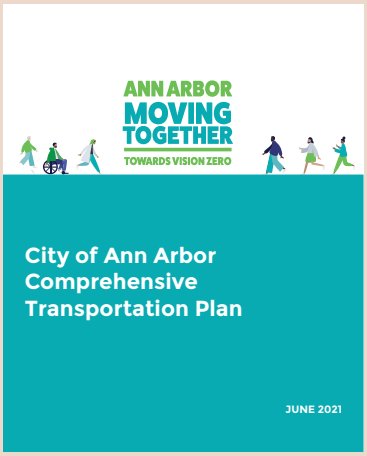
Eliminating parking minimums and reducing cars' dominance over land use makes neighborhoods more livable and encourages cleaner transportation.

Cleaner Freight

Many transportation plans aim to improve freight efficiency. Sometimes, that includes freight strategies in support of climate and equity goals, such as truck routing networks or bike cargo.

Minimizing Highways

A main purpose of long-range transportation plans is often to set the budget for road maintenance and expansion. How many plans seek to reduce or reverse the impacts?



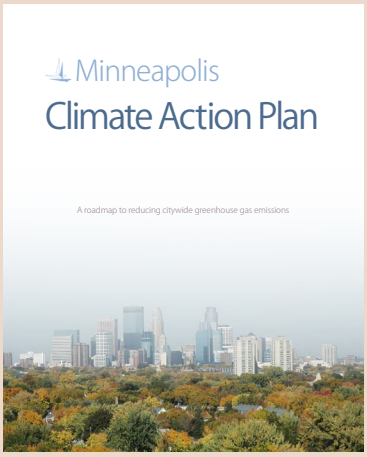
Case Study

Ann Arbor Gets Specific and Ambitious

Ann Arbor is a good example of a smaller jurisdiction that integrates its climate action and transportation plans. *A2Zero Climate Action Plan* (2020) and Moving Together Towards Vision Zero – Comprehensive Transportation Plan (2021) are both recent plans which have goals that align between the two documents. Ann Arbor's Climate Action Plan has a specific, measurable, and ambitious VMT reduction goal (50%). Both plans support land use reform that includes mixed use zoning. There is a remarkable level of overlap between the two plans.

One unique element for this jurisdiction was their desire to connect Vision Zero to both safety and the climate. Normally, Vision Zero is a global movement to eliminate traffic fatalities and severe injuries among all road users. However, Ann Arbor went a step further and linked this movement to reducing transportation emissions to zero because of the complementary goals achieved by improving walking, biking, and transit infrastructure. While Ann Arbor is a small community with a large university, which makes it unique, there is a ton to celebrate in these plans. Jurisdictions of all size should learn from Ann Arbor's integrated planning style and ambitious goals.

> *"Putting the Vision Zero goal first was an important step. Transportation has the ability to address safety, equity, and carbon neutrality, these goals really run in tandem. Being really intentional about them – that's what is exciting about transportation now, there are so many opportunities to dig into these issues."*
>
> *- Suzann Flowers, Transportation Program Manager, City of Ann Arbor*



Case Study

Minneapolis Builds on Previous Efforts

Minneapolis is a great example of a jurisdiction that uses its previous plans to inform its ongoing work, with future plans taking previous goals and structures and expanding them. In Minneapolis, their climate plan is the oldest of the ones we reviewed, created in 2013. It set the tone, which was taken and made more specific in their comprehensive plan, Minneapolis 2040 (2019) and the Transportation Action Plan (2020).

Both Minneapolis 2040 and the Transportation Action Plan are models for other jurisdictions. The Transportation Action Plan builds climate and equity directly into the document. It takes the goals of predecessors and expands them. It is both detailed and specific in its goals. A highlight of their plans is an ambitious mode-shift goal. Minneapolis' goal is to reduce the number of car trips by increasing the percentage of walking, biking, and public transit trips. For planners around the Midwest, Minneapolis is a planning example to follow regardless of the size of your community. The plans model excellent engagement, fully integrated climate and equity goals, and a host of relevant and measurable strategies.

> *"Climate was a goal of the Transportation Action Plan since the beginning, and aligns with Minneapolis 2040 and the Climate Action Plan. We engaged staff from our Sustainability Office in the planning process. We view transportation work as climate work. All of the staff who worked on the plan were responsible for integrating this goal [into the plan]."*
>
> *- Kathleen Mayell, Transportation Planning Manager, City of Minneapolis Public Works*

Process Recommendations for Transportation and Comprehensive Planning

In many comprehensive and long-range transportation plans, meaningfully reducing climate emissions from transportation and land use was sorely lacking. With some changes, jurisdictions will be able to bring their plans into alignment and reduce emissions from transportation at a higher rate. Our team has the following recommendations for climate-focused land use and transportation planning.

- **Ensure plans have a transparent timeline and assign responsibility for all goals and projects.** This is key to ensuring accountability.
- **Set specific and measurable climate-aligned targets and strategies.** Specific, measurable targets are the only way to ensure that climate-aligned transportation and land use strategies are implemented on a scale that fits the immediacy of the problem.
- **Meaningfully engage with vulnerable communities.** Though comprehensive and transportation planning processes often involve mandated minimum community engagement, meaningful engagement is not only about quantity. Directly partnering with vulnerable communities and being intentional about integrating community feedback are the first steps towards equity.

Content Recommendations for Transportation and Land Use Plans

While much of what we saw was promising, there were issues and conflicts of interest that exist in many plans, and big opportunities to change the fundamental assumptions about transportation design and its impacts on communities.

- **Shift focus—and funding—from roadways and highways to transit, biking, walking, and rolling.** There remains an overwhelming focus on widening highways and spending money on roadway improvements above all else. Even in plans that espouse the importance of shifting towards alternative transportation and striving for climate mitigation, there is often a concurrent commitment to expand road systems to accommodate more vehicles.
- **Add or increase a focus on density, walkability, and creating complete neighborhoods that provide access to basic needs.** These plans are often ambivalent about suburban growth and density and can be weak on multimodal transportation and climate impacts.
- **Integrate climate and equity considerations into the plan.** From the start of the process, to its end, city plans have to recognize their contributions to climate and equity problems, and include goals and strategies to solve them.

A Timely Note on Federal Resources

Federal funding available to jurisdictions has increased substantially since the passing of the Inflation Reduction Act (IRA) and the Infrastructure Investment and Jobs Act (IIJA, also known as the Bipartisan Infrastructure Law). Both bills are already having an enormous impact on the types of infrastructure that can be built. These bills open up huge opportunities, but are unfortunately not necessarily a net gain for climate action.

What's **positive**? Quite a few things! The bills have historic levels of funding for passenger rail and transit, as well as a new program called "Reconnecting Neighborhoods," which will allow communities to remove destructive, divisive infrastructure like highways. These, alongside other positives, could help begin to create more walking, biking, and transit networks that provide quality, reliable access to destinations without a car. There are also huge implications for our ability to electrify, though as noted in our section on EVs, electrification alone is insufficient.

Unfortunately, the potential for **negative** impact is almost as large: the bills include a historic investment in highway construction, which will further entrench automobile culture and induce even more driving. And while the federal government has given state DOTs discretion to flex much of the allocated formula funds towards transit, most DOTs are either unprepared or unwilling to fundamentally change the way they plan, fund, and build projects from the existing car-centric status quo.

Ultimately, these bills are both full of potential to repair our climate and risk we will further harm it. Faced with this context, **local leaders can make an enormous difference in shaping our communities to be more climate sustainable and welcoming.** We look to our local leaders to continue to bring forward a climate-centered, community-centered, transformative vision for communities. It is a much-needed counterpoint to the status quo.

For those interested in learning more about how to best take advantage of specific funding sources, we recommend visiting Transportation for America's information hub.[21]

21 "2021 Infrastructure Law: What's in it, how to use it," *Transportation for America,* t4america.org/iija/.

Conclusion

Climate plans, comprehensive plans, and transportation plans are all pieces of the same puzzle. We hope this report helps communities fit the pieces together to foster communities that are healthy, sustainable, and enjoyable.

By focusing on policies that enable people to get where they need to go without having to drive, transportation becomes more inclusive and less polluting. By focusing on planning processes that seek out the counsel of communities most harmed by transportation systems, we can begin to move toward lessening the impact of past harms, and creating new patterns that benefit those communities. No matter where your jurisdiction is at in the planning process, the time is always right to plan for safe, clean, and accessible cities.

Appendix A: List of Plans

Plan Key

CAP – Climate Plan
CP – Comprehensive Plan
TP – Transportation Plan

MINNESOTA

Minnesota State
CAP – Climate Action Framework (Draft 2022)
TP – Minnesota GO (2017, update due 2022)

Minneapolis
CAP – Minneapolis Climate Action Plan (2013)
CP – Minneapolis 2040 Comprehensive Plan (2019)
TP – Minneapolis Transportation Action Plan (2020)

Hennepin County
CAP – Hennepin County Climate Action Plan (2021)
CP – Hennepin County 2040 Comprehensive Plan (2019)

Duluth
CAP – Duluth 2022-2027 Climate Action Work Plan (2022)
CP – Imagine Duluth 2035: Transportation (2018)
TP – Sustainable Choices 2045: Duluth-Superior Long-Range Transportation Plan (2019)

St. Paul
CAP – Climate Action and Resilience Plan (2019)
CP – 2040 Comprehensive Plan (2021)

Ramsey County
CP – Ramsey County 2040 Comprehensive Plan (2019)

WISCONSIN

Wisconsin State
CAP – Governor's Task Force on Climate Change Report (2020)
TP – WisDOT Connect 2050 Long-Range Transportation Plan (2022)

Appleton
CAP – Climate Action Plan (2021)
CP – Appleton Comprehensive Plan (2017)
TP – Transit Development Plan (2019) and Downtown Mobility Plan (2016)

Eau Claire
CAP – Renewable Energy Action Plan (2020)
CP – Eau Claire Comprehensive Plan (2015)

Dane County
CAP – Dane County Climate Action Plan (2020)
CP – Dane County Comprehensive Plan (2016)

Appendix A: List of Plans

Plan Key

CAP – Climate Plan
CP – Comprehensive Plan
TP – Transportation Plan

MICHIGAN

Michigan State
CAP – Michigan Healthy Climate Plan (2021)
TP – Michigan Mobility 2045 Long-Range Transportation Plan (2021)

Oakland County
CP – Strategic Plan Dashboard
TP – Keep on Paving: 2021 Road Commission for Oakland County Strategic Plan (2021)

Detroit
CAP – Sustainability Action Agenda (2019)
CP – Master Plan of Policies (2021)
TP – Strategic Plan for Transportation (2019)

Ann Arbor
CAP – A2Zero Climate Action Plan (2020)
TP – Moving Together Towards Vision Zero: Comprehensive Transportation Plan (2021)

Traverse City
CAP – Environmental Stewardship Assessment (2012, never adopted)
CP – Traverse City Master Plan (2017)

Grand Rapids
CAP – Grand Rapids Climate Resiliency Report (2013)
CP – GR Forward (2015) and Strategic Plan (2019)
TP – Vital Streets Plan (2017)

IOWA

Iowa State
CAP – Climate Change Advisory Council Report (2008)
TP – Iowa in Motion Long-Range Transportation Plan (2017)

Cedar Rapids
CAP – Community Climate Action Plan (2021)
CP – Envision CR (2015, updated 2021)
TP – 2045 Long-Range Transportation Plan (2020)

Ames
CAP – In development, press release (2022).
CP – Ames Plan 2040 (2021)
TP – Forward 2045 Metropolitan Long-Range Transportation Plan

Appendix A: List of Plans

Plan Key

CAP – Climate Plan
CP – Comprehensive Plan
TP – Transportation Plan

IOWA (CONT.)

Iowa City
CAP – Climate Action and Adaptation Plan (2018)
CP – Comprehensive Plan (2013)
TP – Future Forward 2050: MPOJC Long-Range Transportation Plan

Dubuque
CAP – Climate Action Plan (2020)
CP – Imagine Dubuque (2017)
TP – DMATS Long-Range Transportation Plan 2050 (2021)

Des Moines
CP – GuideDSM (2016)
TP – MoveDSM: Transportation for Everyone (2018)

Decorah
CAP – Decorah Sustainability Plan (2020)
CP – Comprehensive Plan (2012)
CAP – Safe Mobility for Everyone: RPA-1's Long-Range, Multimodal Transportation Plan 2045 (2019)

ILLINOIS

Illinois State
In lieu of a CAP – Climate Equity and Jobs Act (2019)
CAP – IDOT Long-Range Transportation Plan (2019)

Chicago
CAP – Climate Action Plan (2022)
TP – CDOT Strategic Plan for Transportation (2021)

Aurora
CAP – Sustainability Plan (2019)
CP – Downtown Master Plan (2017)
TP – CMAP Long-Range Transportation Plan: On To 2050 (2018)

Carbondale
CAP – Sustainability Action Plan (2022)
CP – Comprehensive Plan (2010)
TP – SIMPO Long-Range Transportation Plan (2020)

Appendix A: List of Plans

Plan Key

CAP – Climate Plan
CP – Comprehensive Plan
TP – Transportation Plan

ILLINOIS (CONT.)

Champaign
CAP – Champaign Growing Greener (2013)
CP – Champaign Tomorrow (2021)
TP – CUUATS Long-Range Transportation Plan (2019)

Cook County
CAP – Report of the Cook County Sustainability Council (2013) and Annual Sustainability Report (2021)
CP – Cook County Planning for Progress (2015)
TP – Connecting Cook County: Long-Range Transportation Plan (2016)

Naperville
CAP – Sustainable Naperville 2036 (2021)
CP – Land Use Master Plan (2022)
TP – Also a part of the CMAP Long-Range Transportation Plan (2018)

Appendix B: Plan Details

GREENHOUSE GAS (GHG) REDUCTIONS

Measurable Reduction Goals: 15% by 2015, *Net zero by 2050* (Hennepin County CAP, St. Paul CAP, Appleton CAP, Eau Claire CAP, Dane County CAP, Michigan CAP, Ann Arbor CAP, Ann Arbor TP, Oakland County Draft CAP, Cedar Rapids CAP, Ames Draft CAP, Dubuque CAP, Decorah CAP, Carbondale CAP); *80% by 2050* (Minneapolis CAP, Minneapolis CP, Minneapolis TAP, Ramsey County CP, Minnesota TP, Iowa City CAP, CMAP TP); *28% by 2025* (Des Moines CP, 25); *Minimum reduction of 62% by 2040* (Chicago CAP)

Other mentions: *Reduce transportation's contributions of GHG* (Dane County CP, p.20); *Reduce emissions from City vehicles* (Detroit CAP, 41); *85% municipal emissions reductions by 2030 and carbon-neutral by 2040* (Grand Rapids CAP); *Reduce transportation related emissions* (Grand Rapids TP, 7); *Limit transportation systems emissions of GHGs* (Ames TP, 10); *Reduce pollution emissions, including CO2* (Iowa City TP, 35*); Reduce vehicle emissions* (Dubuque TP, 14); *Reduce emissions (including GHGs) by implementing performance-based project selection* (Illinois TP, 41*); Reduce emissions from CDOT's fleet* (Chicago TP); *Establish action plan for GHG reductions* (Carbondale CP, 2.23); *Reduction of GHG emissions is an important step.* (Champaign CP, 26)

VEHICLE MILES TRAVELED (VMT)

Measurable Reduction Goals: *Reduce 1.8% annually – 4 miles less/person/day* (Minneapolis TAP, 38); *More ambitious than 20% reduction from 2010 levels by 2050* (Hennepin County CAP, 52); *Reduce VMTs to 2.06 billion by 2040, from 2.14 billion in 2017* (Hennepin County CP); *2.5% annual decrease VMT per person* (St. Paul CAP, 56); *Reduce VMT 40% by 2040* (St. Paul for All, T-21, 75); *Reduce VMT 50% by 2030* (Ann Arbor CAP, 6); *Reduce VMT 30% per capita compared to 2050 forecast* (Iowa CAP, H-4); *Reduce per capita VMT 15% by 2030 and 45% by 2050* (Cedar Rapids CAP, 8); *Reduce household VMT 4% by 2025* (Champaign TP); *Reduce VMT 4% every year* (Naperville CAP)

General Reduction Goals: *Reduce VMT* (Eau Claire CP, 3-5; Iowa City TP, 36; Dubuque CAP, 5-4; Carbondale CAP, 13); *Minimize VMT* (Ames CP, 32); *Reduce VMT related to county business* (Ramsey County CP, 155); *"Individuals, businesses, and the city can all take action to reduce vehicle miles traveled (VMT) in the city of Appleton, reducing GHG emissions and promoting the health benefits of active transportation."* (Appleton CAP, 43)

Other mentions: *"Even with the adoption of electric cars, a 38% reduction in passenger miles traveled by automobile is needed to achieve the 80% reduction of GHGs by 2050"* (Minneapolis CP, 38); *"Through 2030, traffic on Wisconsin's roadways is projected to increase 34 percent."* (Appleton CP, 75); *Growth models expect 33% increase in VMT* (Eau Claire TP, 9); *"Reducing total vehicle miles traveled (VMT) will be equally important [as EVs] for staying on course toward deep decarbonization."* (Dane County CAP, 99); *Incorporate unique rural VMT reduction strategies* (Iowa CAP, H-4); *As a regional destination, total VMT reflects the travel of non-residents. This is important to the local economy and should be encouraged. Efforts to reduce VMT will primarily target community residents.* (Champaign CAP, 50); *Vision includes reduction in overall VMT* (Champaign CP, 24)

SINGLE OCCUPANCY VEHICLE (SOV) TRAVEL

Measurable Reduction Goal: *Reduce 4.8 million drive alone trips by 2015* (Minneapolis CAP, p.28); *10% reduction in SOV commuters by 2030, 40% by 2040, 50% by 2050* (St. Paul CAP, 56); *Increase average vehicle occupancy to 2. Reduce 3,900 trips a day* (Eau Claire CAP, 29); *Reduce SOV from 95% commute rate to 45% by 2035* (Grand Rapids TP, 7); *Replace 55% of vehicle trips with sustainable options* (Iowa City CAP, 36)

Overall Reduction Goal: *Reduce per-person, single-occupancy driving citywide* (Duluth CAP, 9); *Reduce reliance on personal automobile travel* (Eau Claire TP, 148); *Promotes reducing the proportion of SOV trips* (Michigan TP, 48); *Fewer SOV miles traveled* (Traverse City CAP, 34; Traverse City CP, 1); *Reduce SOV travel* (Grand Rapids CP, 25); *Reduce share of commute trips made by personal vehicle* (Dubuque TP, 13); *Support reduction in use of SOVs* (Illinois TP, 41); *Reduce the need for solo car trips* (Chicago TP, 22); *Promote cleaner transportation* (Oakland County CP)

Other Mentions: *Reduce long-term dependence on the automobile* (Des Moines CP, 23, Cook County CP, 76); *Roughly half of survey respondents would prefer not to drive alone* (Decorah TP, 18)

TRANSIT

Ridership Goal: *Increase AllTransit performance score to 8.3 by 2030* (Detroit CAP, 72); *Double regional transit ridership (*Minneapolis CAP, 23; Hennepin County CP, 2-16; Iowa CAP, 5-7; CMAP TP, 255; Cook County TP, 51*); 40% increase by 2050* (St. Paul CAP, 57); *20% increase by 2030* (Chicago CAP, 39); *10% increase by 2021* (Eau Claire CAP); *Quadruple current ridership* (Ann Arbor CAP, 73); *Increase transit ridership to 3% by 2030* (Dubuque CAP, 5-4); *5% increase by 2025* (Champaign TP) *Increase proportion of trips made by transit* (Dane County CP, 24); *"Increase access to clean transportation options – including public transit – by 15 percent each year"* (Michigan CAP, 5); *Increase percentage of population within ¼ mile of a transit stop* (Oakland County CP; Iowa City TP, 31); *Increase percentage of jobs within ¼ mile of transit stop* (Dubuque TP, 12)

Frequency Goal: *Redefine high-frequency from 15 to 10 minutes, support expansion so 75% residents are within ¼ mile, 90% within ½ mile by 2030* (Minneapolis TP, 108. Includes recommendations for areas to receive expanded coverage.); *Seek to establish high-frequency network* (Duluth CP, Policy 3); *Select routes have potential for increased frequency* (Eau Claire CP, 3-35); *Provide bus routes with service every 15 minutes on major corridors* (Detroit CAP, 74; Ann Arbor TP, 90); *Increased signal prioritization for transit* (St. Paul CP, 75; Michigan TP, 104; Detroit TP, 15; Ann Arbor TP, 118; Des Moines TP, 35; Cook County TP, 70); *95% have access to transit within 1/2 mile with frequencies 20 minutes or faster* (Ann Arbor CAP, 72); *50% within 1/4 mile of 15 minute or less all-day transit service* (Grand Rapids CP, 25); *Increase frequency of transit routes to a minimum of 30 minutes* (Dubuque CAP)

Route Expansion: *Planning Bus Rapid Transit (BRT)* (Minneapolis CAP, 25; Minneapolis CP, 533; Minneapolis TP, 115; Duluth CP, Policy 3; Duluth TP, 5-13; St. Paul CP, 98; Ramsey County CP, 60; Ann Arbor CAP; Ann Arbor TP, 92; Grand Rapids CAP, 28; Grand Rapids CP, 202; Iowa CAP, H-7; Chicago TP, 19; CMAP TP, 257; Champaign CAP, 52); *Address gaps in network* (Minneapolis CAP, 25; Michigan TP, 10); *Advocate for development of new routes* (Hennepin County CAP, 52); *Prioritize expansion between high population and high employment density* (Duluth CP, P3; Iowa City CAP, 40); *Increase coverage in low-income areas* (St. Paul CAP, 57); *Ensure all neighborhoods have access to transit* (Appleton CAP, 47); *Transit route study* (Appleton TP, 2-2; Iowa City CAP, 39); *Long-term expansion priorities* (Eau Claire CP, 3-35; Eau Claire TP, 139; Cedar Rapids TP, 59; Dubuque CP, 8-31; Des Moines TP, 33); *In-*

crease service on ten high-capacity routes (Detroit TP, 8); *Purchase new buses* (Detroit TP, 48; Cedar Rapids TP, 146; Carbondale TP, 53); *Expansion of rural transit* (Champaign TP)

Bus Stop Accessibility and Attractiveness: *Pedestrian/biking connections to transit* (Minneapolis CAP, 25; Minneapolis CP, 145; Duluth TP; Michigan TP, 98; Grand Rapids TP, 26; Des Moines TP, 35; Carbondale TP, 52; Champaign CP, 43; Champaign TP; Cook County CP, 77); *First-last mile infrastructure* (Minneapolis CP, 229; Duluth CAP, 9; Dane County CP, 23; Detroit TP, 15; Cook County CP, 77); *Place-making and amenities at transit stations* (Minneapolis CP, 228; Duluth CP, Policy 3; Duluth TP; St. Paul CAP, 57; St. Paul CP, 75; Minnesota TP, 75; Detroit TP, 8; Ann Arbor TP, 94; Traverse City CAP, 35; Grand Rapids CP, 212; Grand Rapids TP, 26; Cedar Rapids TP, 61; Ames TP, 137; Des Moines TP, 35; Champaign CAP, 53); *Prioritize snow removal near transit* (Duluth CP, Policy 3); *Lighting standards for bus stops* (Detroit TP, 46; Grand Rapids TP, 26)

Reduced/Zero Fare Program: *Free fare for students* (Appleton CAP, 44; Champaign TP); *One zero-fare route* (Eau Claire CAP, 31); *Discounted passes for City employees* (Detroit TP, 42; Champaign CAP, 7); *Free rides on clean air action days* (Grand Rapids CAP, 78); *Explore expansion of Fare Free transit network* (Grand Rapids CP, 25); *Explore/expand special fares for those who can't afford transit (*Grand Rapids CP, 207; Chicago CAP, 84; Champaign TP); *Pursue strategies that keep costs as low as possible* (Decorah TP, 26; Carbondale CAP, 13); *Incentives for commuters* (Naperville CAP, 4-2)

Funding: *Increase available resources for transit* (Minneapolis TP, 116; Wisconsin CAP, 47; Iowa CAP, 5-7; CMAP TP, 259); *Seek long-term transit funding* (Appleton CP, 93; Iowa TP, 199); *Explore alternative funding* (Eau Claire TP, 148; Dane County CAP, 102; Ann Arbor TP, 96); *Budgets more for transit than roadway projects* (Ames TP, 138)

Other strategies: *Employer support for employee transit* (Hennepin County CAP, 52; Duluth CAP, 7; Duluth CP, Policy 3; Ann Arbor CAP, 104; Dubuque CAP); *Improve transit branding and marketing* (Duluth CP, Policy 3; Appleton CAP, 47; Appleton TP, 4-1; Detroit TP, 46; Iowa TP, 199; Decorah CAP, 7; Decorah TP, 26; Aurora CP, 63); *Build transit center* (Appleton TP, 4-7; Eau Claire CP, 3-36; Carbondale CP, 3.23); *Ensure seamless transfers between modes* (Dane County CP, 25; Detroit TP, 46; Dubuque CAP); *Electronic fares* (Michigan TP, 104; Detroit TP,); *Expand Wifi on buses* (Detroit CAP, 44); *Bus loop between school and after-school programming* (Detroit TP, 47); *Expand park-and-ride* (Dane County CP, 22; Ann Arbor TP, 96; Traverse City CP, 2; Grand Rapids CP, 202; Iowa TP, 199; Carbondale TP; Ann Arbor CAP, 76); *Provide dynamic signage* (Minneapolis CAP, 26; Grand Rapids CP, 220); *Real-time info* (Ames TP, 137; Iowa City CP, 39; Illinois TP, 37; Aurora CP, 63); *Transit app* (Illinois TP, 37)

RAIL

Mentions: *Advocate for intercity passenger rail* (Ramsey County CP, 68; Appleton CP, 90; Eau Claire CAP, 15-24; Eau Claire CP, 3-40; Eau Claire TP, 161; Wisconsin CAP, 47; Ann Arbor TP, 96; Iowa CAP, 5-8; Iowa City CP, 39; Dubuque TP, 58; Illinois TP, 15); *Expand commuter rail* (Michigan TP, 57; CMAP TP, 47); *Explore local light rail* (Iowa City CP, 39)

ACTIVE TRANSPORTATION

Complete Streets Goals: *Adopt and implement complete streets approach* (Minneapolis CAP, 27; Minnesota TP, 98; Appleton CP, 94; Eau Claire CAP, 30; Eau Claire TP, 149; Wisconsin CAP, 49; Oakland County TP, 12; Iowa CAP, H-9; Iowa TP, 193; Cedar Rapids CP, 131; Iowa City TP, 37; Dubuque CP, 8-31; Aurora CP, 57; Carbondale CP, 3.21; Champaign CP, 29; Champaign TP; Naperville CAP, 4-2); *User hierarchy* (Minneapolis CP, 118; Ramsey County CP, 47; Detroit TP, 23; Traverse City CAP, 34) *Incorporate bike/ped infrastructure into roadway improvements* (Duluth CP; St. Paul CP, 75; Dane County CP, 22; Iowa City TP, 85; Champaign TP; Cook County TP, 77); *Incorporate bikeable shoulders into rural roadway projects* (Carbondale TP, 72); *Utilize complete streets where feasible* (Michigan TP, 124; Decorah CP, 65); *Increase percentage within ¼ mile of a trail* (Iowa City TP, 37; Dubuque TP, 12)

Mode-shift Goal: *15% of trips by bicycle by 2025* (Minneapolis CAP, 26); *35% of trips should be walking or biking by 2030* (Minneapolis TP, 12); *Bike to work and walk to work 3.4% and 5% respectively by 2040* (Hennepin County CP, 2-16); *Biking and walking 5% and 12% respectively by 2035 (*Grand Rapids TP, 7)

Bikeway Goal: *30 miles of new on-street, protected facilities by 2020* (Minneapolis CAP, 26); *Continue to build bikeways* (Minneapolis CP, 144); *Build 20 new miles bicycle facilities/year* (Hennepin County CP, 2-17); *85 new miles by 2030* (St. Paul CAP, 58); *Add 20 miles of protected bike lanes* (Detroit CAP, 72); *Install 5 miles new bike lanes/year, majority protected* (Ann Arbor CAP, 70); *Add 50 miles of new bike lanes* (Chicago CAP, 73; Chicago TP, 49); *Increase mileage of bike facilities by 10% by 2025* (Champaign TP); *Address gaps in bicycle system* (Hennepin County CP, 2-25; Duluth CP; Appleton CAP, 43); *Achieve Gold Bike-friendly community by 2030* (Eau Claire CAP, 68); *Apply for at least Silver Bike-friendly certification* (Dubuque CAP, 5-6)

Bicycle Infrastructure: *Expand secured storage and changing facilities* (Minneapolis CP, 144; Naperville CP, 61); *Maintain bike network year-round* (Minneapolis TP, 75; Appleton CAP, 43; Traverse City CAP, 21; Traverse City CP; Grand Rapids CP, 216); *Expand bicycle parking* (Minneapolis TP, 75; Duluth CP; Appleton TP, 14-19; Eau Claire CP, 3-31; Traverse City CAP, 35; Chicago TP, 49; Aurora CAP, 13; Carbondale CP, 3.21); *Increase bicycle capacity on buses* (Duluth CP; Appleton CAP, 43); *Add bike repair stations* (Appleton CAP, 43); *Parking at transit stops* (Eau Claire TP, 42); *Create bicycle hubs* (Appleton CAP, 47)

Measurable Sidewalk Goals: *Close 150 miles of sidewalk gap by 2030* (St. Paul CAP, 58); *Fill 90% of sidewalk gaps by 2030* (Ann Arbor CAP, 70); *Install 20 new crosswalks/year* (Detroit TP, 54); *Enhance 25 crosswalks/year, 10 new crosswalks/year* (Ann Arbor TP, 56); *Aim for a WalkScore of 75* (Detroit CAP, 72); *Increase percent of sidewalks above 70 in compliance* (Champaign TP)

Walking Experience: *Improve snow clearing, winter accessibility* (Minneapolis CAP; Minneapolis TP, 48; Duluth CP; Appleton CAP, 43; Traverse City CAP, 21; Traverse City CP; Cheddar Rapids TP, 95); *Identify options for downtown plazas* (Duluth CP; Ann Arbor TP, 114); *Improve driveway sightlines* (Minneapolis CP, 119; Minneapolis TP, 66); *Improved street lighting* (Minneapolis TP, 48; Appleton CP, 83; Detroit TP, 54; Chicago TP, 18); *Encourage pedestrian connections downtown* (Minneapolis CP, 197; Detroit CP, 52; Iowa City CP, 28; Dubuque CP, 8-31; Aurora CP, 53; Carbondale CP, 3.21; Champaign TP); *Encourage buildings to improve pedestrian experience* (Minneapolis CP, 119; Dane County CP, 22; Naperville CP, 55); *Improve pedestrian crossings* (Minneapolis TP, 48; Duluth CP; Eau Claire CP, 3-31; Grand Rapids CP, 187; Carbondale TP, 72); *Improve pedestrian system ADA compliance* (Minneapolis TP; Hennepin County CP, 2-17; St. Paul CAP, 57; Minnesota TP, 85; Eau Claire CP, 3-26; Eau Claire TP,

92; Grand Rapids CP, 25; Cedar Rapids CP, 131; Iowa City TP, 37; Decorah CAP, 7; Decorah TP, 23; Chicago TP, 47; Aurora CP, 63; Carbondale CP, 3.19); *Implement or update ADA Transition plan* (Duluth CP; Duluth TP, 5-14; Ann Arbor TP, 82);

Funding: *Increase funding or budget for non-motorized transportation* (Duluth CAP, 10; Dane County CAP); *Use funding from federal Transportation Alternatives Program* (Eau Claire TP, 159; Wisconsin CAP, 49); *Increased property tax to have dedicated sidewalk funding* (Ann Arbor TP, 54); *Dedicate 10% of resources on bike/ped network* (Traverse City CAP, 22); *Consider same-source funding for bike/ped infrastructure* (Iowa TP, 193); *Gas utility revenue earmarked for sidewalks* (Decorah CP, 58); *Analyze budgets to determine whether DOT is focusing enough funding on active transportation* (Illinois TP, 57); *10 million budgeted for bicycle, micromobility and walkability improvements* (Chicago CAP, 26)

Other strategies: *Support implementation of bicycle/pedestrian master plan* (Minneapolis CAP, 27; Hennepin County CP, 2-23; Duluth TP, 6-20; St. Paul CAP, 58; St. Paul CP, 75; Ramsey County CP, 72; Appleton CP, 94; Eau Claire CP, 3-31; Eau Claire TP, 92; Dane County CP, 22; Michigan TP, 77; Detroit TP, 30; Ann Arbor CAP, 70; Grand Rapids CP, 225; Iowa TP, 145; Cedar Rapids CP, 125; Dubuque CAP, 5-6; Illinois TP, 57; Carbondale TP, 72; Champaign CAP, 53; Champaign CAP, 43; Cook County CAP, 2; Cook County TP, 70); *Improve signal timing and detection for pedestrians and/or bikes* (Minneapolis CAP, 28; Minneapolis TP, 193; Hennepin County CP, 2-40; St. Paul CP, 73; Eau Claire TP, 92; Michigan TP, 105; Ann Arbor TP, 80; Grand Rapids CP, 187; Iowa City TP, 51; Chicago TP, 50); *Improve bike/ped wayfaring* (Minneapolis TP, 75; Appleton CAP, 43; Appleton CP, 83; Eau Claire CAP, 68; Eau Claire CP, 3-31; Dane County CP, 22; Ann Arbor TP, 60; Cedar Rapids CP, 134); *Safe Routes to School* (Minneapolis CAP, 27; Duluth CP; Duluth TP, 6-20; St. Paul CP, 75; Ramsey County CP, 52; Appleton CP, 67; Traverse City CP; Cedar Rapids TP, 148; Dubuque CAP, 5-6; Des Moines TP, 76; Decorah CP, 58; Champaign CAP, 53; Champaign CP, 43; Champaign TP; Naperville CAP, 4-2); *Care for pedestrians/bicyclists in lane closures and obstructions* (Minneapolis TP, 199)*; Pedestrian connection to river/park* (Duluth CP; St. Paul CP, 75; Appleton CP, 85; Appleton TP, 14-19; Iowa City CP, 26; Des Moines CP, 5; Aurora CP, 63); *Improve bike/ped infrastructure along at least one named street* (Duluth TP, 6-19; Appleton TP, 14-19; Eau Claire CP, 3-13; Oakland County TP, 53; Detroit TP, 54; Ann Arbor TP, 56; Grand Rapids CP, 192; Ames TP, 70; Dubuque TP, 57; Des Moines TP, 32; Carbondale TP, 98; Naperville CP, 68); *Active transportation education and encouragement* (Minneapolis TP, 75; Appleton CAP, 43; Appleton CP, 83; Dane County CP, 22; Dubuque CAP, 5-6; Decorah TP, 23; Carbondale CP, 3.21; Carbondale TP, 72; Champaign CAP, 53; Champaign TP); *Create a position dedicated to active transportation* (Appleton CAP, 43); *Traffic calming design* (St. Paul CP, 73; Eau Claire CP, 3-23; Eau Claire TP, 148; Cedar Rapids TP, 95); *Street typologies with bike/ped facilities* (Minneapolis TP; Appleton TP; Ann Arbor TP; Grand Rapids TP; Des Moines TP, 27); *Traffic calming manual* (Carbondale CP, 3.11)

SHARED MOBILITY

Bike and scooter-share: *Expand existing bikeshare* (Minneapolis TP, 23; Detroit TP, 9; Chicago TP, 19; Aurora CP, 57; Carbondale CAP, 13); *Plan for implementation or pilot at least one new bike or scooter sharing program* (Minneapolis TP, 23; Duluth CP; Eau Claire CAP, 31; Ann Arbor TP, 86; Dubuque CAP, 5-4; Chicago TP, 49)

Microtransit: *Determine if public micro-transit is feasible* (Eau Claire CAP, 31); *Microtransit pilot* (Ames TP, 128)

Carpooling and car-share: *Expand car sharing* (Minneapolis CAP, 26); *Expand carsharing so everyone lives within a 10 minute walk of carshare by 2026* (Ann Arbor, 86); *Make a carsharing program for City*

employees (Detroit TP, 42); *Integrate carsharing with low-income housing* (Ann Arbor TP, 98); *Increase carpooling to 11% of commuters by 2030* (Dubuque CAP, 5-4); *Zero-interest car loan* (Decorah TP, 45); *Support Zipcar* (Champaign CAP, 55); *Support new ride and car sharing* (Cook County TP, 70); *Increase carpooling* (Naperville CAP, 4-2)

Other mentions: *Plan for shared vehicles* (Minneapolis CP, 151); *Ensure shared mobility is available to all regardless of economic status* (Hennepin County CP, 2-10); *Ensure shared mobility option within .25 mile of transit service* (St. Paul CAP, 57); *Create mobility hubs* (St. Paul CP, 75; Ann Arbor TP, 94); *Increase number of mobility options* (Detroit CAP, 72); *Pilot integration of transit and bikeshare* (Detroit TP, 47; CMAP TP); *20% of trips should be rideshare by 2035* (Grand Rapids TP, 7); *Set standards for micromobility options* (Ames TP, 128); *Maintain affordability of shared bikes* (Champaign TP)

LAND USE DEVELOPMENT

Density Goal: *60% of new urban growth should occur as compact development by 2030* (Dane County CAP, 100); *Increase average density* (Eau Claire CAP, 30); *Seek compact development* (Eau Claire CP, 3-5; Iowa City CAP, 22); *Establish a minimum gross residential density target of 6.0 units/acre for each new development areas, and a minimum net residential density of 3.75 units/acre in new single-family subdivisions* (Ames CP, 32); *Increase gross density by 3.75%* (Dubuque CAP, 5-4); *Use zoning to increase high-density and mixed use neighborhoods* (St. Paul CAP, 56; Ann Arbor CAP, 80; Ann Arbor TP, 108; Grand Rapids CAP, 90; Ames CP, 7; Champaign CP, 30); *Incentivize mixed-use compact development* (Eau Claire CAP, 82; Iowa City CP, 20; Dubuque CAP, 5-6; Carbondale CP, 2.15); *Encourage compact development* (Ramsey County CP, 51); *Promote or support mixed-use development* (Appleton TP, I-8; Dane County CP, 16; Traverse City CP, 26; Iowa City TP, 35; Dubuque CP, 9-16; Des Moines, 25; Champaign TP)

Sprawl Reduction: *Support policies to reduce sprawl* (Appleton TP, I-8; Eau Claire, 42); *Promote multiple land uses as opposed to sprawl* (Cedar Rapids CP, 42); *Discourage development that is not contiguous to existing urban footprint* (Champaign TP)

Transit-Oriented Development (TOD) Goal: *Zone for dense development along transit corridors* (Minneapolis CAP, 24; Minneapolis CP, 67; Minneapolis TP, 117; St. Paul CP, 75; Dubuque CAP, 5-6; Dubuque TP, 131); *Incentivize high-density development along transit corridors* (Detroit CP, 59; Dubuque CAP, 5-6; CMAP TP, 263; Cook County CAP, 38); *Require minimum development near transit stations* (Minneapolis CP, 228); *Increase households within ½ mile of transit lines* (Hennepin County CP); *Create affordable housing in transit market areas* (St. Paul CAP, 56; Cook County CAP, 38); *Encourage TOD* (Hennepin County CAP, 52; Eau Claire CP, 3-6; Ramsey County CP, 52; Appleton CP, 93; Appleton TP, I-8; Eau Claire TP, 149; Dane County CP, 16; Cook County CP, 30); *Partner in TOD projects (*Michigan TP, 127); *Increase affordability near train stations* (Naperville CP, 89)

Housing Diversity and Infill Goals: *Support policies that encourage infill over development on new land* (Minneapolis CP, 111; Appleton TP, I-8; Cedar Rapids CP, 42; Carbondale, 2.16; Champaign CP, 25); *Promote infill development* (Aurora CAP, 9); *Infill in at least one named specific location* (Minneapolis CP, 74; Eau Claire CP, 3-6); *Increase housing diversity* (Ann Arbor CAP, 78); *Build 2,000 new multi-family or attached dwelling units by 2030* (Ann Arbor CAP, 78)

Walkability and Accessibility Goals: *Ensure all residents have access to basic needs within 20 minute walk by 2030* (Ann Arbor TP, 108); *Define a 15-minute neighborhood and develop guidance and incentives for infill, prioritizing vulnerable neighborhoods* (Cedar Rapids CAP, 26); *Make essential services*

more accessible through multimodal transportation (Grand Rapids CAP, 90); *Update land use policies to encourage accessibility* (Chicago CAP, 39); *45% of population and 42% of jobs should be located in highly walkable areas* (CMAP TP, 43); *Residents should live within a mile of commercial uses where they can satisfy everyday needs* (Champaign CP, 32); *Maintain or improve multimodal accessibility for affordable housing locations* (Champaign TP)

Other Mentions: *Convert excess right of way to development* (Minneapolis TP, 117); *Ensure new development has appropriate transportation infrastructure* (Duluth CP; Champaign TP); *Adjust Comprehensive Plan maps and policies* (Eau Claire CAP, 67; Ann Arbor CAP, 78); *Create a set of guidelines to promote "Urban villages"* (Dane County CAP, 100); *Expand the ability of the Department of Planning and Development to provide free services to rural governments* (Dane County CP, 16); *Preserve diversity of housing choice for all income levels* (Iowa City CAP, 40); *Encourage transit center to transition to mixuse, including housing* (Appleton CP, 93)

PARKING

Eliminate minimums: *Adjust minimum parking* (Minneapolis CAP, 28; Appleton CP, 94; Iowa City CAP, 40; Chicago CAP, 32; CMAP TP, 48; Champaign TP); *Eliminate off-street parking minimums for new development* (Minneapolis CP, 119; Duluth CAP, 9; St. Paul CAP, 56; Dane County CAP, 104; Ann Arbor CAP, 82; Ann Arbor TP, 106; Dubuque CAP, 5-6); *Maintain a balanced parking program* (Appleton CP, 93); *Reduce minimum parking within 5 years* (Eau Claire CAP, 30); *Exempt downtown from parking minimums* (Eau Claire CP, 3-39)

Establish maximums: *Re-evaluate maximums* (Minneapolis CP, 119; Appleton CP, 94; CMAP TP, 48; Champaign TP); *Establish parking maximums for new development* (Minneapolis TP, 188; Ann Arbor CAP, 82; Ann Arbor TP, 106; Champaign CP, 29)

Surface parking lots: *Minimize surface parking lots* (Minneapolis CP, 120); *Redevelop and infill around existing surface parking lots downtown* (Dubuque, 5-6); *Encourage underground and structured parking, and support on-street parking in key corridors* (Appleton CP, 94); *Pilot agreements to make underutilized lots more available* (Detroit TP, 50); *Consider banning new surface lots downtown* (Grand Rapids CP, 196); *Review zoning to permit repurposing underutilized parking* (Naperville CP, 30)

Reduce parking near transit: *Zone to accommodate parking requirement modifications for multi-family and transit-oriented development* (Naperville CP, 27); *Reduce parking requirements near transit* (Detroit TP, 17); *Allow flexibility in required parking for employers who enhance transit service* (Carbondale CP, 3.24)

Parking pricing: *Vary parking pricing with goal of one empty spot/block* (Minneapolis CAP, 27); *Curbside management to deprioritize parking* (Minneapolis TP, 187; Ames TP, 129); *Redesign downtown parking fees* (St. Paul CAP, 56); *Use pricing to manage demand and improve efficiency* (St. Paul CP, 74; Aurora CP, 60; CMAP TP, 48); *Parking should cost* (Appleton CP, 78); *Adjust charges to discourage on-street and encourage off-street parking* (Eau Claire CP, 3-38); *Pilot dynamic pricing* (Detroit TP, 50); *Establish tiered parking rates* (Ann Arbor CAP, 82; Ann Arbor TP, 102); *Increase meter rates and redirect revenue* (Grand Rapids CAP, 28); *Redesign parking fees with carbon reduction in mind* (Dubuque CAP, 5-6)

Other Mentions: *Require new development to have market-priced parking* (Minneapolis CP, 139); *Dynamic parking information system* (Duluth CP; Detroit TP, 17); *Conduct a parking study* (Duluth CP); *Unbundle parking from rent* (St. Paul CAP, 56); *Reduce the amount of land devoted to parking* (St. Paul CP,

76); *Use street parking for traffic calming on low-traffic streets* (Eau Claire CP, 3-38); *Varying the price and time limits of parking is an important method of controlling traffic* (Eau Claire TP, 154); *Eliminate excess parking* (Ann Arbor CAP, 82); *Adopt a comprehensive parking strategy* (Traverse City CAP, 35; Traverse City CP, 3; Aurora CAP, 13); *Develop parking developments that can convert* (Grand Rapids CP, 26); *Parking requirement revisions* (Ames TP, 129); *Align parking with climate goals* (Iowa City CAP, 40); *Construct parking structures that promote pedestrian-oriented character* (Iowa City CP, 40); *Update parking policy* (Des Moines TP, 84); *Address downtown parking challenges* (Aurora CP, 58); *Increase truck parking facilities* (Champaign TP)

FREIGHT

Mentions: *Bicycle cargo* (Minneapolis TP, 160; Chicago TP, 29); *Create a truck routing network* (Eau Claire TP; Detroit CP; Detroit TP, 16; Dubuque CP, 4-5; Carbondale CP, 3.11); *Minimize conflict* (St. Paul CP; Cedar Rapids TP, 17; Carbondale TP, 66); *Incorporate freight into complete streets hierarchy and vision* (Minneapolis TP, 160); *Make and implement freight plan* (Chicago TP, 29; Champaign TP); *Mitigate negative freight impacts* (CMAP TP, 274); *Minimize freight emissions through efficiency* (Iowa CAP, 5-9)

Highways and Streets

Opposing Highway Expansion: *Oppose freeway expansion* (Minneapolis TP, 183); *Focus on maintenance* (St. Paul CP, 76; Duluth TP, 4-7; Cedar Rapids TP, 17); *Restore the traditional street grid* (Minneapolis CP, 128); *Capacity expansion as a last resort* (Eau Claire CP, 4.3); *Policy of no new roads* (Grand Rapids CAP, 27)

Remediation, Right-sizing and Road Diets: *Consider freeway removal* (Minneapolis CP, 182); *Design solutions like land-bridges* (Minneapolis CP, 182; St. Paul CAP, TM-6; St. Paul CP, 76); *Reduce street width and use to keep cost down* (Duluth CP); *Aggressively pursue road-diets* (St. Paul CP, 72); *Study road-diets* (Ramsey County CP, 56; Eau Claire TP, 154); *Rightsizing and lane reduction* (Michigan TP, 82; Iowa TP, 197; Des Moines TP, 81); *Road diet for at least one named location* (Grand Rapids CP, 188)

Traffic Management: *Congestion pricing* (Minneapolis CAP, 28; Chicago TP, 22); *Enforce anti-idling* (Minneapolis CP, 120; Duluth CAP, 7; Decorah CAP, 27); *Address congestion through behavior changes with no money left for expansion* (Duluth TP, 4-7); *Reduce speed limits* (St. Paul CP, 73); *Traffic Demand Management* (Hennepin County CP, 2-35; St. Paul CP, 75; Ramsey County TP, 52; Wisconsin TP, 16; Chicago CAP, 39)

Other mentions: *Develop liveability metrics to prioritize non-highway projects for funding* (Illinois TP, 35); *"The department will continue to prioritize reducing congestion…Increasing system capacity by adding lanes is typically considered when less intensive options are not effective solutions to address a roadway project's purpose and need."* (WisDOT TP, 17); *Implement a network of smart corridors* (Cook County TP, 77)

Appendix C: RE-AMP – Sustainable Transportation Action Team Toolkit

FOCUS AREA: DESIGN

Action/Policy	Description	Difficulty
Right-size Roads/limit new capacity	Prime on-street parking spaces must be prioritized for short-term, high turnover type uses such as deliveries and pickups and drop offs.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Convert some on-street car parking to be available for parking bikes, scooters or for use as parklets.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Establish sustainable transportation boundaries within your community/region, where driving tolls will be placed on interstate, state, and county roads for passenger vehicles driving rush-hour traffic flows.	**Major Project.** *High Difficulty, High Impact*
	Reallocate street space to move people, not cars. Reduce car travel speeds through effective design. Reduce car travel lanes and lane widths, and reallocate space to public transit, walking and biking.	**Major Project.** *High Difficulty, High Impact*
Support Complete Streets	Create complete protected networks for bike, pedestrian, and rolling infrastructure. Create walkable environments around transit stops.	**Priority.** *Low Difficulty, Higher Impact*
	Create plazas, malls or districts that are closed off to cars and allow people to walk, bike and take transit freely through them. These could take the form of passenger vehicle-free or pedestrian-only zones (See Madrid, Prague, Paris).	**Major Project.** *High Difficulty, High Impact*

FOCUS AREA: POLICIES AND REGULATIONS

Action/Policy	Description	Difficulty
Support local trips and active transportation	Lower speed limits citywide.	**Major Project.** *High Difficulty, High Impact*
Support upzoning, reduced parking requirements, and infill development	Prioritize projects that reduce driving and support sustainable transportation.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Support the development of affordable housing near areas with high-quality transit.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Protect undeveloped land and limit low-density zoning.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Remove city mandated minimums for parking and replace them with maximums.	**Priority.** *Low Difficulty, Higher Impact*
	Rewrite zoning codes to encourage dense, income-inclusionary development that reduces passenger vehicle travel demand and supports sustainable transportation modes.	**Priority.** *Low Difficulty, Higher Impact*
	Incentivize infill development by moving away from using manuals such as ITE Trip Generation that penalize developments for contributing to traffic congestion. Instead reward developments that integrate non-driving options, such as being on transit lines, have no on-site parking, provide ample bike parking, and are located amidst other amenities.	**Major Project.** *High Difficulty, High Impact*
Change decision-making criteria	Rethink how to measure transportation success. For example, a common current metric, Level of Service (LOS) measures how quickly cars can pass through an intersection or a street. Using another measure like accessibility or multimodal level of service will help prioritize people and not cars.	**Priority.** *Low Difficulty, Higher Impact*

FOCUS AREA: TRANSPORTATION OPTIONS

Action/Policy	Description	Difficulty
Invest in transit	Prioritize comfort of wait time at transit stops. Invest in shelters that are covered and protect from the weather elements (a preference for heating if possible), have consistent and sufficient lighting, include real-time tracking, and have useful benches.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Create a universal pass program that allows seamless connectivity through all transportation modes.	**Major Project.** *High Difficulty, High Impact*
	Prioritize transportation options that carry the most people using technology like transit signal priority.	**Major Project.** *High Difficulty, High Impact*
	Invest in efficient, frequent and rapid public transportation that connects people to destinations effectively and reliably. This could include supporting regional transit authorities (RTAs) or other transit funding measures.	**Major Project.** *High Difficulty, High Impact*
Support local trips and active transportation	Invest in shared community mobility systems like bike and scooter share.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Reduce barriers to using active transportation--such as removing pedestrian actuated buttons, and providing bike and walk signal phases at every controlled intersection.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Sustainable transportation design and use should be driven by the future, designed for children and families/parents traveling with children, and people with physical, visual, and audible disabilities.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Give free bus passes to City employees. Work to provide free annual transit passed to any student enrolled in K-12 or secondary education programs.	**Priority.** *Low Difficulty, Higher Impact*
	Allow access to new mobility options like scooters, car share and bike share to those without bank accounts, credit cards or drivers licenses.	**Priority.** *Low Difficulty, Higher Impact*
	Identify high transit areas and target these places as fare-free corridors. Potential criteria include high levels of transit service, and areas of concentrated poverty. Prioritize communities and people with the most to gain for fare-free transit.	**Major Project.** *High Difficulty, High Impact*

FOCUS AREA: DATA COLLECTION

Action/Policy	Description	Difficulty
Develop all sustainable transportation systems in an equitable manner	Work to ameliorate historical racism and discrimination in transportation decision-making. Collect data to identify groups who are disproportionately affected by a lack of access to reliable transportation, and those who are vulnerable users. Develop intentional processes to listen to amplify and incorporate the voices of those who have been historically left out of transportation decision-making. Work to get governance boards to be comprised of previous or current transit users and compensate them where feasible. Work to remove armed police from transit systems and replace them with public health or community wellness individuals.	**Priority.** *Low Difficulty, Higher Impact*
Transportation demand management	Set a driving reduction goal. Track overall rates of driving and other mode usage.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Track useful metrics and set goals to judge the sustainability of your local transportation network. Including change in annual cost of transportation, time spent in a vehicle by income, age, race, and abilities. Track changes in total surface parking lot and overall roadway square footage/acreage. Track changes in the number of young households with children that take transit.	**Low-Hanging Fruit.** *Lower Difficulty, Lower Impact*
	Monitor the efficacy of transportation improvements using shared community values like livability, safety and access to opportunity. Monitor the annual cost of transportation needs, and physical, mental, and emotional health and wellness.	**Priority.** *Low Difficulty, Higher Impact*
	As owners of the Right of Way, compel mobility partners such as scooter and bike share operators, and Transportation Network Companies to share usage data. Use this data to make infrastructure investment decisions. For example, corridors that see high levels of bike share usage must be prioritized for protected bike infrastructure.	**Major Project.** *High Difficulty, High Impact*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