

# LincolnBikePlan

On-Street Bicycle Facilities Plan



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## Executive Summary

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February 2019

LINCOLN  
**MPO**★  
METROPOLITAN PLANNING ORGANIZATION

 **FELSBURG  
HOLT &  
ULLEVIG**





**VISION** : Lincoln will be a bicycle-friendly community where bicycling is safe and convenient for all and a common form of transportation and recreation.

The City of Lincoln has a strong tradition of supporting bicycle travel, not only for recreation but as a means of transportation. Lincoln has successfully built an extensive trail network that includes nearly 250 miles of trails. The primary purpose of the Lincoln Bike Plan is to identify an on-street bike network that builds on the City's trail network and provides safe and low-stress bicycle commuting and recreational opportunities. This plan depicts a comprehensive system of off-street and on-street facilities to safely connect neighborhoods and destinations and encourage bicycle travel. To complement the bike network recommendations, this plan recommends programmatic initiatives pertaining to education, enforcement, and encouragement and policy changes to further Lincoln's bicycle-friendly culture.



## Vision and Goals

The Lincoln Bike Plan vision and goals were developed to reflect the community values expressed throughout the planning process. These goals are foundational to the plan recommendations, including how actions are phased and prioritized.



## Goals

**Safety:** A safe environment for all travel modes.

**Comfort:** A network of low-stress bike facilities that are comfortable for all ages and abilities.

**Culture:** A culture of respect and responsibility for all transportation system users.

**Equity:** A network that provides equal access to bicycling for all members of the community.

**Connected:** A network that connects people with places.

**Ridership:** A bicycle network and culture that increase bicycling for all trip purposes.

**Education:** A community that is aware of travel options, rules of the road, and the benefits of bicycling.

**Funding:** Sustainable and reliable funding for bicycle infrastructure and programs.

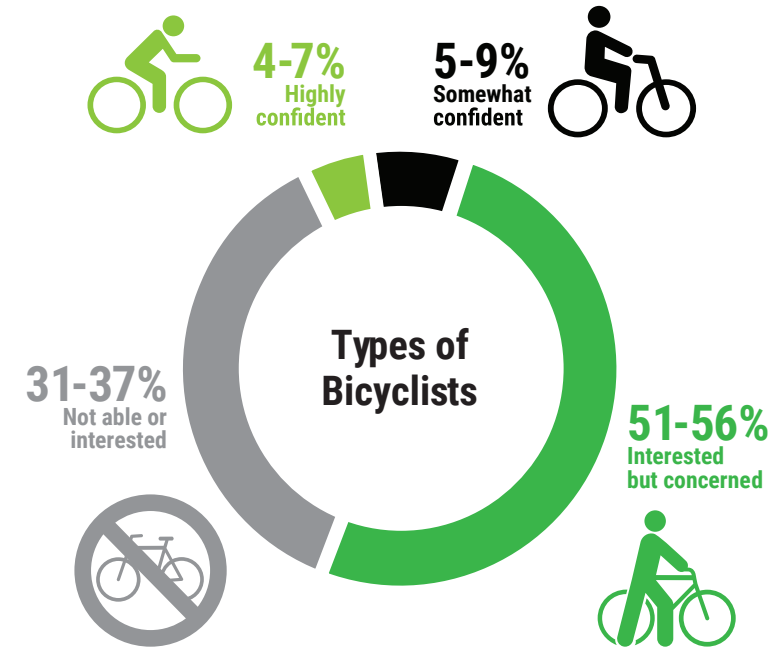
**Travel Options:** A multimodal system that provides travel options to support a more compact, livable urban environment.

**Bicycle Friendly:** A community that is recognized as a Gold Level Bicycle Friendly Community.

## Types of Bicyclists

The largest portion of the general population, over half, is classified as "Interested but Concerned." These are people who would like to bicycle more but have significant safety concerns and are hesitant to share the road with vehicles. They are not comfortable around high-volume and high-speed traffic. Due to their reservations about how safe bicycling is, and despite their desire to do so, many of the people in this category do not bicycle regularly. This group represents the greatest opportunity for Lincoln to increase bicycle ridership. The recommendations for bicycle infrastructure, programs, and policies in the Lincoln Bike

People generally fall into one of four categories based on their level of comfort:



Plan target improving the safety, comfort, and connectivity for the "Interested, but Concerned" bicyclist. A bike network for this group will be safe and comfortable for most people riding bicycles. Planning for a safe and comfortable bike network will help achieve the community goals.







## Community Engagement

Lincoln has a passionate bicycling community. This project provided the opportunity to engage Lincoln residents from all parts of the City to take advantage of each community member's knowledge of the City's streets and trails. A robust public outreach process was conducted to understand what streets people thought were appropriate for new or improved bike facilities and to develop a network that fits everyone's needs.

An interactive public commenting map was hosted on the project website and provided the public an opportunity to submit location-specific comments about bicycle improvements. This mapping tool offered an easy way for the public to provide input and resulted in a visual representation of hot spots and areas of concern. Over 600 comments were posted on the map.

Two public meetings were hosted during the planning process and online versions of the meeting materials and corresponding surveys were posted on the project website. To supplement the two public meetings, the project team provided information about the bike plan at activities already occurring in the community, such as the BikeLNK launch, Lincoln Earth Day, Bike to Work Day, LES Sustainable Living Event, UNL's Bike Fest, and Streets Alive. The project team made a concerted effort to reach low-income and minority community members by working with Lincoln Public Libraries, StarTran, Lincoln Bike Kitchen, and Matt Talbot Kitchen.

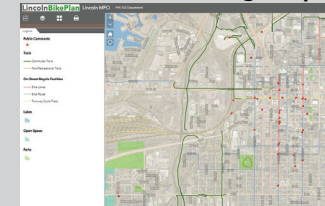
## Bicycle Facility Advisory Committee

A Bicycle Facility Advisory Committee met four times during the planning process and included stakeholder representatives from various agencies, educational institutions, businesses, and non-profit organizations.

### Public Meetings



### Public Commenting Map



### Community Events



Online survey findings and comments

Public commenting map input

Email comments

Project information at special events

Input at public meetings

## Community Input

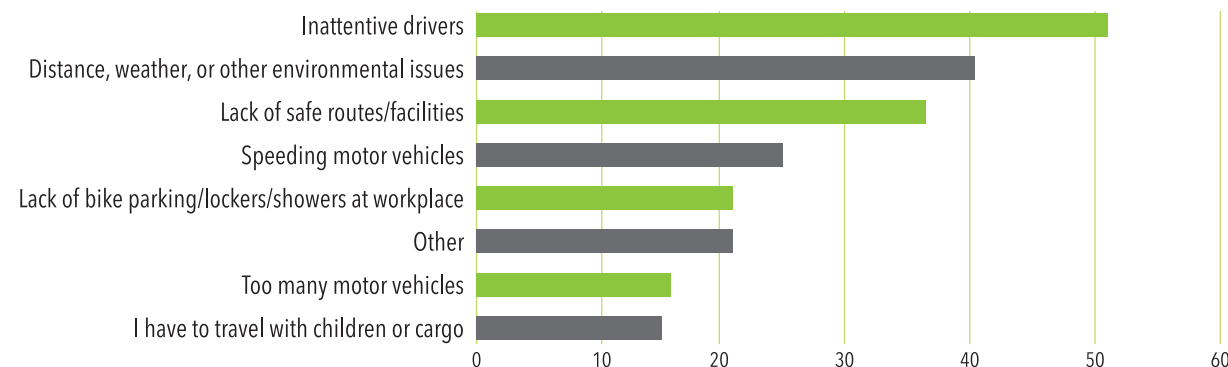
The community's input was essential in developing the bike network, recommendations, and the implementation plan.

During the first phase of public outreach, the project team solicited input on community values relative to biking and asked questions to understand why people bike today and what would encourage them to bike more. The team received comments through several platforms, including an online survey, the public commenting map and open-ended comment feature, and social media platforms. These comments varied widely in tone and specificity; the input was used to develop recommendations and refine the bike plan.

*"Biking allows me to see the beauty of the community and connect with other humans."*

*- Bennie Shobe, Councilman and Bicycle Facility Advisory Committee Member*

## What currently prevents you from bicycling more in Lincoln?



*'Other' responses included concerns about bicycle theft, personal health reasons, and lack of time*



# Recommended Bike Network

## Bicycle Facility Types



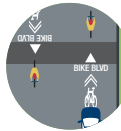
**Separated Bike Lane:** One- or two-way bikeway that combines the user experience of a sidepath with the on-street infrastructure of a conventional bike lane. They are physically separated from both motor vehicle and pedestrian traffic. One-way separated bike lanes in the direction of motorized travel provide intuitive and simplified transitions to other bikeways. Two-way separated bike lanes require special attention to transition contra-flow bicyclists into other bikeways and are typically used on one-way streets where there are minimal access points.



**Buffered Bike Lane:** Buffered bike lanes are created by painting or otherwise creating a flush buffer zone between a bike lane and the adjacent travel lane. While buffers are typically used between bike lanes and motor vehicle travel lanes to increase bicyclists' comfort, they can also be provided between bicycle lanes and parking lanes in locations with high parking turnover to discourage bicyclists from riding too close to parked vehicles.



**Bike Lane:** A portion of a roadway that has been designated for preferential or exclusive use by bicyclists by lines and symbols on the roadway surface. Bike lanes are for one-way travel and are normally provided in both directions on two-way streets and/or on one side of a one-way street.



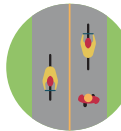
**Bicycle Boulevard:** Bicycle boulevards are residential streets that discourage speeding and cut-through traffic to provide a safe and comfortable environment for people bicycling, walking, and driving. Because bicycle boulevards are shared environments, they do not typically require impacts to on-street parking. Bicycle boulevards include wayfinding signs and pavement markings. To ensure that they are comfortable for bicyclists of all ages and abilities and to improve safety for pedestrians, they can include traffic calming features to encourage appropriate motor vehicle speeds and volumes.



**Bike Routes (Shared Lanes):** A signed route that is preferred for bicycling due to low traffic and/or access to destinations. The roadway is open to both bicycle and motor vehicle travel and may be designated using signs and/or shared lane markings (or "sharrows") to denote where the bicyclist is anticipated to operate.



**Sidepath:** A separated path along a roadway that serves people bicycling and walking within the street right-of-way. Sidepaths may be desirable along high-volume or high-speed roadways, where accommodating bicyclists within the roadway in a safe and comfortable way is impractical. Since sidepaths are shared by bicyclists and pedestrians, they are most appropriate where pedestrian volumes are relatively low. Sidepaths may present increased conflicts with motor vehicles at driveways and intersections.



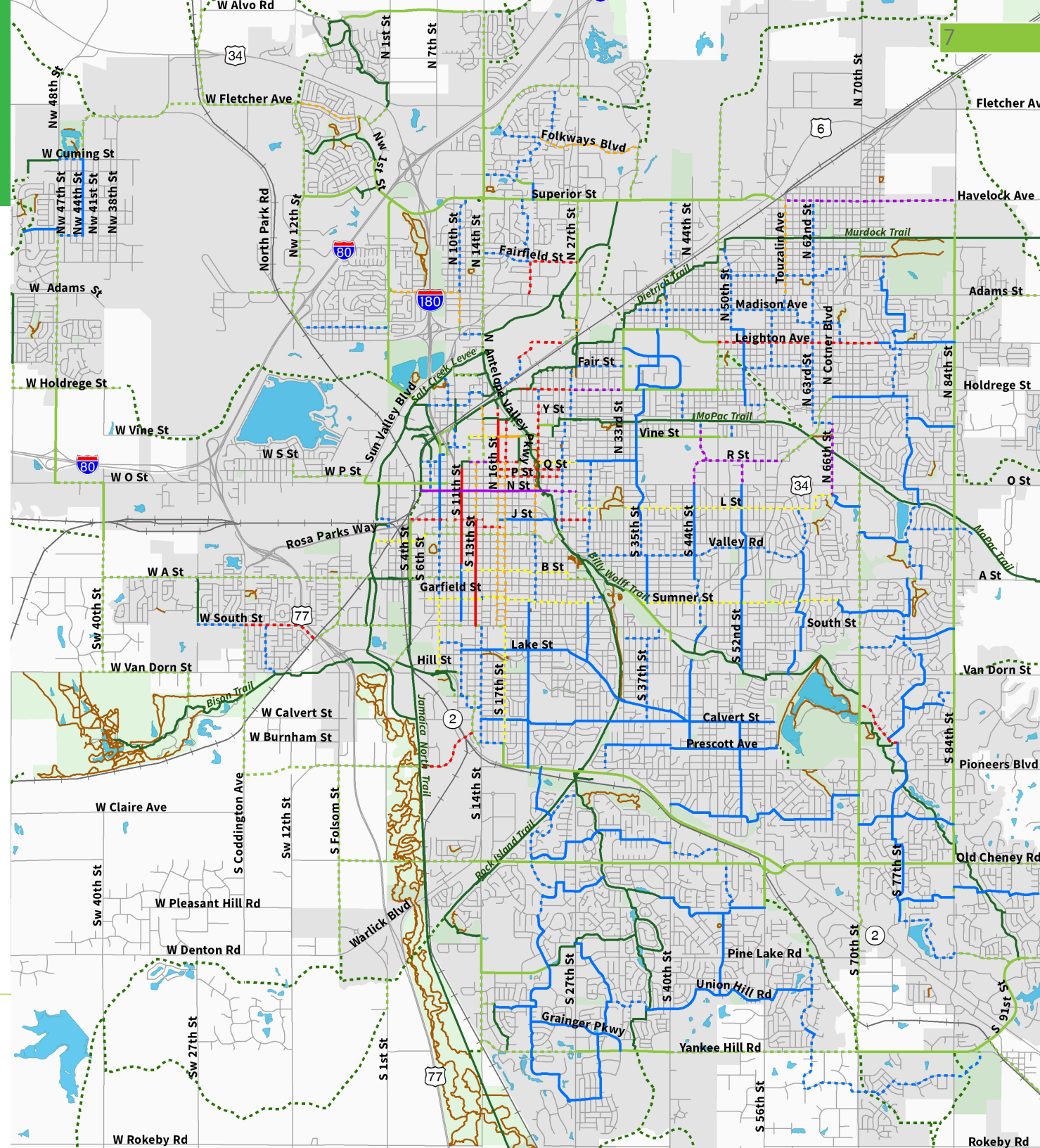
**Trails:** Also referred to as shared-use paths, trails are located in an independent alignment, such as a greenbelt, alongside a waterway, or within an abandoned railroad right-of-way. Trails serve bicyclists, pedestrians, and other non-motorized users. Lincoln's trail system includes 'Trails', those that provide a higher level of continuity, and 'Park/Recreation Trails', those that allow for walking and bicycling within parks and open space areas.

## LEGEND

— Existing  
- - - Proposed

— Separated Bike Lane  
— Buffered Bike Lane  
— Bike Lane  
— Bicycle Boulevard

— Bike Routes (Shared Lanes)  
— Sidepath  
— Trails  
— Park/Recreational Trails





## Low Stress Network

The recommend bike network was developed to accommodate “Interested But Concerned” bicyclists by providing a connected system of low-stress bikeways. A network for this group will be safe and comfortable for most people riding bicycles. The network builds from the existing trail network and on-street bike facilities including the N Street Cycle Track and bike lanes in the downtown area. It connects on-street bikeways and trails and will ultimately connect people riding bikes to key destinations like bus stops, schools, libraries, employment centers, and social destinations. The network has roughly three-block spacing in the downtown area and gradually becomes less dense toward the city’s edge with roughly one-mile spacing between routes.



*“Couldn't agree more [that the bike network will contribute to overall quality of life in Lincoln]. This is a way to make Lincoln a more attractive city to a talented workforce and increase mobility and access for all citizens.”*

*- Public Comment*

## Education & Outreach Recommendations

Implementation of education and outreach strategies to support improved bicyclist safety in Lincoln is a critical next step in furthering Lincoln’s bicycle culture. Based on the statistics and input from bicyclists and other street users, there is a need for refocused and increased education and outreach efforts. Recommendations for new and expanded efforts are grouped into two initiatives with distinct yet related objectives. The strategies and steps associated with each initiative are meant to reach people in a meaningful, impactful way to achieve the objectives of increased safety and civility on Lincoln’s streets.

### Multi-faceted Initiatives

#### Implement a Safety Campaign Targeting Specific Unsafe Behaviors.

Launch a comprehensive education and enforcement initiative to address the most common causes of bicyclist-involved crashes. This includes an in-depth study of crash causes, contributing factors, and trends to guide intervention efforts. This initiative should include an education element that emphasizes high-visibility outreach methods and an enforcement element that includes targeted efforts.

#### Foster a Culture of Mutual Respect and Empathy.

Design an outreach campaign that seeks to foster a culture of mutual respect amongst road users and empathy for vulnerable users (bicyclists and pedestrians). One of the key elements of this effort is to expose more people to biking through encouragement efforts that foster a love of bicycling. The second element is a public relations campaign to humanize bicyclists and publicize the rules of the road. The third element is to increase awareness of, and familiarity with, safety and etiquette information.





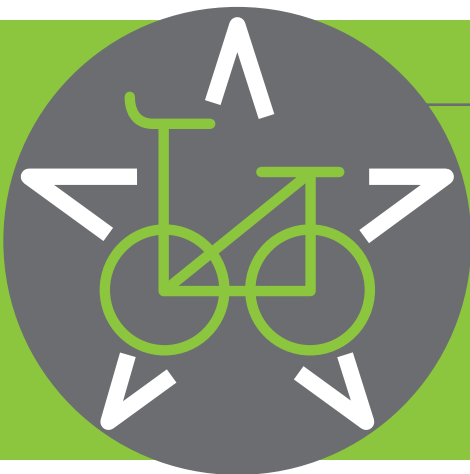
## Implementation Plan

Completion of the bike network will happen over time, as resources become available. The proposed network is divided into 135 individual projects. Eight of the projects already have secured funding and will be constructed in the near term – many as a part of routine street rehabilitation and capital roadway projects. By combining implementation of the bike network with other street projects, the projects can be completed at a significant cost savings.

The remaining projects are prioritized to help focus resources on projects that will provide the greatest benefits to Lincoln. The projects are prioritized based on evaluation criteria linked directly to the bicycle goals:

- Barriers
- Bicycle Demand
- Safety
- Connectivity
- Social Equity

The project phasing plan also considers the relative project costs and the ease of implementation.



## Steps to Gold

One of the goals of this plan is to be recognized as a Gold Level Bicycle Friendly Community by the League of American Bicyclists. Achieving Gold status requires a concerted effort on the part of elected officials, City staff, and advocates to implement the recommendations of this Plan; expand outreach, education, and enforcement programs; and think strategically during the next application process. The Lincoln Bike Plan documents recommended steps to achieve Gold status and further Lincoln's bicycle-friendly culture.

## Implementation of the bike network will include...

### 11 miles of Bicycle Boulevards

- these quiet neighborhood streets provide a safe and comfortable environment for people biking, walking, and driving

### 7.5 miles of road diets

to accommodate enhanced bike facilities – that's less than 4% of Lincoln's arterial and collector streets

### 11.5 miles of lane diets

- vehicle travel lanes will be narrowed but will remain within lane width standards

### 47 miles of bike routes

- these streets are already low stress, they just need low-cost signing and markings so that people know they're great streets to bike on

### 88 intersection enhancements

- these improvements will range from simple crosswalk striping to pedestrian signals to grade separated crossings

### 58 miles of sidepaths

- these shared use paths adjacent to streets accommodate people walking and on bikes

### 7.7 miles of street reconstruction projects

- these streets need to be widened to comfortably accommodate people on bikes

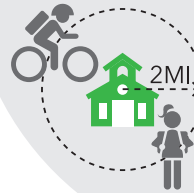


# Investing in Bikes is Good for Everyone!

## ENVIRONMENT



20% of greenhouse gas emissions come from automobiles *(FHWA 2012)*

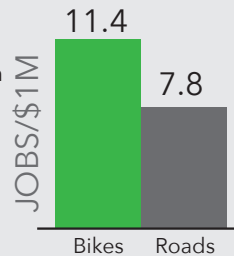


If 20% of children within 2 miles of their school walked or biked, vehicle-based pollution could drop by 375,000 tons. *(SRTS)*

## ECONOMY



- For each \$1 million spent on bike infrastructure projects, 11.4 jobs are created. *(PREI)*
- Road-only projects create 7.8 jobs per \$1 million.



People using modes other than personal vehicles spend as much or more at retail establishments and are more frequent patrons. *(PSU)*



## SAFETY

Complete street conversion projects have been proven to lower collision rates. *(Smartgrowth)*



**\$18M**

37 complete street projects across the country brought \$18 million in annual savings from fewer and less severe collisions.

## HEALTH



Inactivity results in ~\$24 billion in annual health care costs, or \$231 per person. *(Wang)*



**32%**

Nebraska has the 13th highest adult obesity rate. (32%) *(State of Obesity)*



Eliminating short car trips (<2 miles) in 11 of the largest Midwest cities would lower mortality by 1,295/year from improved air quality and increased physical activity. *(NIH)*

SOURCES: For more information on the sources, please view the full Lincoln Bike Plan report.

## MOBILITY

Every trip made by bike is one less car on the road, and one less occupied parking spot.

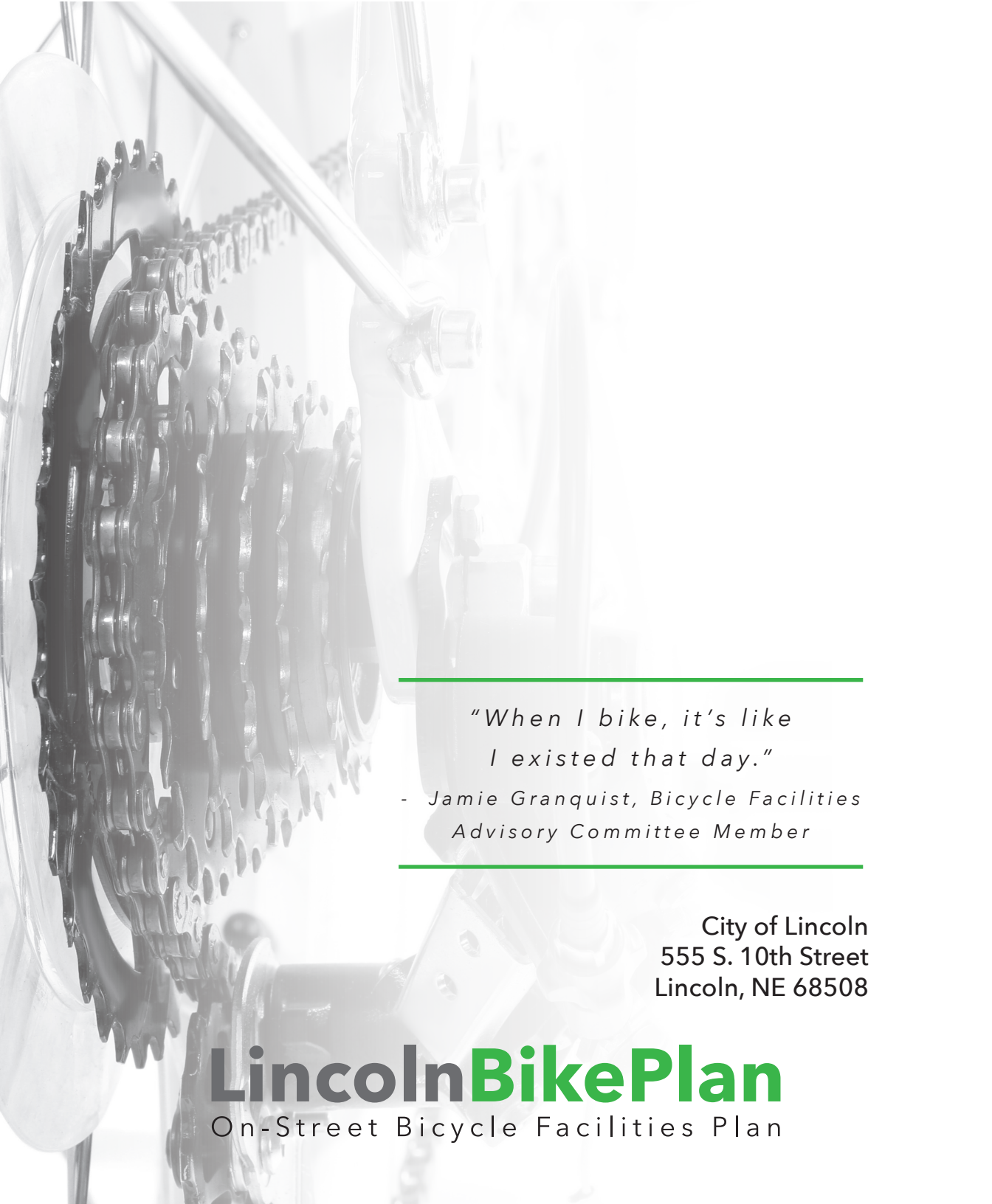


**7X**

Bicycles can move up to 7 times more people through a traffic lane in one hour than personal autos. *(EC)*

Investing in high quality bike infrastructure leads to a higher bike mode share. *(City of Portland)*





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*"When I bike, it's like  
I existed that day."*

- Jamie Granquist, Bicycle Facilities  
Advisory Committee Member

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# Lincoln **BikePlan**

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