



## Lakewood **Moves**

**Lakewood will support connectivity through a variety of transportation options and inspire residents to utilize multiple transportation modes.**

**Multi-Modal Transportation System  
Future Transportation Improvements  
Complete Streets  
Way-finding & Informational Sign Opportunities**



## Guiding Principle

**Lakewood will support connectivity through a variety of transportation options and encourage residents to utilize multiple transportation modes.**

Lakewood will be dedicated to designing and developing safe and attractive complete streets that equally respect pedestrians, bicyclists, transit, and automobiles. Lakewood will encourage its residents to utilize an array of transportation options. The City will develop a multi-modal network that efficiently links neighborhoods, employment centers, and activity centers. The City will accommodate the demand for safe and well-maintained roadways.

## Introduction

Lakewood's competitiveness within the Denver region is enhanced by its accessibility. In the past, Lakewood's prosperity relied on its strategic location along a number of important thoroughfares, such as US 6 (6th Avenue), Colfax Avenue and Wadsworth Boulevard. Over time, the city has gained significant bus transportation, and recently, light rail that provides connections to downtown Denver and Golden, as well as the rest of the regional rail system.

Having multi-modal access to neighborhoods, retail services, employment, transit, and amenities is essential to maintaining a high quality of life and economic vitality. A multi-modal system involves not only automobile, bus and rail facilities, but also a robust bicycle and pedestrian system. Having a multi-modal system will help the City achieve its goals of increasing residential and employment within the current boundaries and also limit the increase in new automobile traffic at the same time. Encouraging, and providing facilities for, walking, biking, and transit use will help the city maintain its attractiveness to businesses and residents, both existing and future. Additionally, the relationship of land use and transportation facilities has a significant impact on a community's economy and character. Coordinating land use and transportation planning can preserve Lakewood's ability to achieve the development program it desires, as well as avoid transportation conflicts leading to deteriorated levels of service.

While traveling by car is the predominate form of mobility in Lakewood and is typically the topic that receives the most attention, planning for future travel needs in the city will involve looking at transportation as an interconnected system of roadways, trails and sidewalks, with multiple options for getting around the community and region including by bus, rail transit, and bike. As the city continues to see employment and population growth, it will become difficult to increase overall roadway capacity. Although targeted street improvements will be necessary, the City will continue to facilitate and invest in all other forms of transportation in the future.

# Transportation Trends

## Vehicle Miles Traveled

Vehicle miles traveled (VMT) is a measure of how much a population is driving, and is a common metric in transportation planning. Nationally, total VMT has reversed a six-decade long period of increases that peaked in 2007. Total VMT has generally declined since a peak in 2007 and, adjusted for population growth, has fallen to the lowest levels in 20 years.

Some explanations for the decline in VMT include retiring Baby Boomers, significant declines in driving and interest in cars by Millennials, increased access to alternative modes of travel such as rail transit and bike share, slower economic growth, and demand side policy measures like tolling. In addition, some trends that fueled VMT growth in the last century have eased, such as the transition of women working outside the home, car ownership has become commonplace, and people's time allocation for car travel may have reached a maximum.

Locally, 2012 data from the United States Census Bureau indicates that VMT per capita in the Denver metropolitan area decreased by 10.6 percent between 2006 and 2011, from 9,363 miles per capita per year to 8,373 miles per capita per year.

Future projections for national VMT by the Federal Highway Administration indicate that growth will slow significantly over the next 30 years, as compared to the trend of the past three decades.

## Alternative Travel Modes

As VMT per capita has decreased within the Denver metro area, use of alternative forms of transportation has increased. Per the Census Bureau data, use of public transportation has increased by 3.5 percent between 2006 and 2011, while commuting to work by bicycle has increased by 0.5 percent.

Within Lakewood, approximately 78 percent of commutes to work are done by single-occupant vehicle. However, the number of trips taken by alternative modes has increased over the last decade. Approximately 9 percent of commuters utilized carpools, 3.5 percent used public transportation, 0.6 percent biked and 1.5 percent walked to work. (Note: the public transit data predates the West Rail Line opening in April of 2013.)

Although the number of Lakewood residents utilizing alternative modes has increased, the city still lags behind the regional averages.

**Table 6-a: Journey to Work by Mode**

| Travel Mode           | Lakewood | Denver Metropolitan Area |
|-----------------------|----------|--------------------------|
| Drove Alone           | 78.4%    | 68.6%                    |
| Carpooled             | 9.2%     | 8.7%                     |
| Public Transportation | 3.5%     | 7.2%                     |
| Motorcycle            | 0.3%     | 0.3%                     |
| Bicycle               | 0.6%     | 2.9%                     |
| Walked                | 1.5%     | 5.0%                     |
| Other                 | 6.4%     | 7.2%                     |

Source: U.S. Census Bureau, American Community Survey, 2012

# Regional Transportation Planning

As part of the Denver metropolitan region, Lakewood does not plan for transportation needs in a vacuum. The City has been involved in area-wide transportation planning since its incorporation.

Lakewood has cooperated with other jurisdictions in Jefferson County to create and update the *Countywide Transportation Plan*, which is a multi-modal plan identifying transit, paratransit, bicycle, pedestrian, transportation control measures, and roadway needs for the diverse communities throughout the county.

Lakewood is also an active partner with the Denver Regional Council of Governments (DRCOG), and has been involved in the creation and adoption of the *2035 Metro Vision Regional Transportation Plan*. The plan includes two components that directly affect Lakewood. The first component is visionary, showing transportation elements and services desired by the region, regardless of funding source. For Lakewood, some of the elements include high capacity transit along Wadsworth Boulevard and various roadway improvement projects throughout the community. The second component, known as the fiscally constrained transportation plan, defines the specific transportation elements and services that include only those projects and activities the region anticipates being able to fund. For Lakewood, this means working with residents and the City Council to prioritize projects on an annual basis.

Both of these plans help Lakewood prioritize improvements and allow the City to compete for grants and other funding opportunities outside of the City budget.



# Lakewood Transportation Documents

The City has a number of documents that address transportation related issues. These documents include many types of information, such as the classifications of various streets and the cross-sections to which roadways must be built.

The *Transportation Engineering Design Standards* include detailed information regarding street design for the different roadway classifications within the City. The standards address roadway, sidewalk, and bike lane and trail widths. The standards also include the City's official Major Street Plan, last adopted in 2007.

In the mid-1980s the City adopted a series of *Functional Plans* that illustrate the ultimate build-out design of all arterial and collector streets within Lakewood. The plans are used as a benchmark to determine the improvements necessary on land adjacent to an arterial or collector streets when development or redevelopment occurs.

The City also maintains a series of development policies, adopted in the early 1990s that, among other development related issues, identify procedures and limitations in requirements for sidewalks and street improvements for development and redevelopment sites.



# MULTI-MODAL TRANSPORTATION SYSTEM

## Overview

A multi-modal transportation system is key to ensuring good mobility for the transportation of residents, goods, and services. Efficiency, access, convenience, and safety for all modes of travel, including pedestrian, bicycling, and transit will afford residents options when planning trips and lessen overall dependence on travel by automobile. The result will be cleaner air, a safer environment, an improved economy, and higher quality of life for Lakewood residents.

The elements of Lakewood's current multi-modal circulation system are identified below.



## Pedestrian System

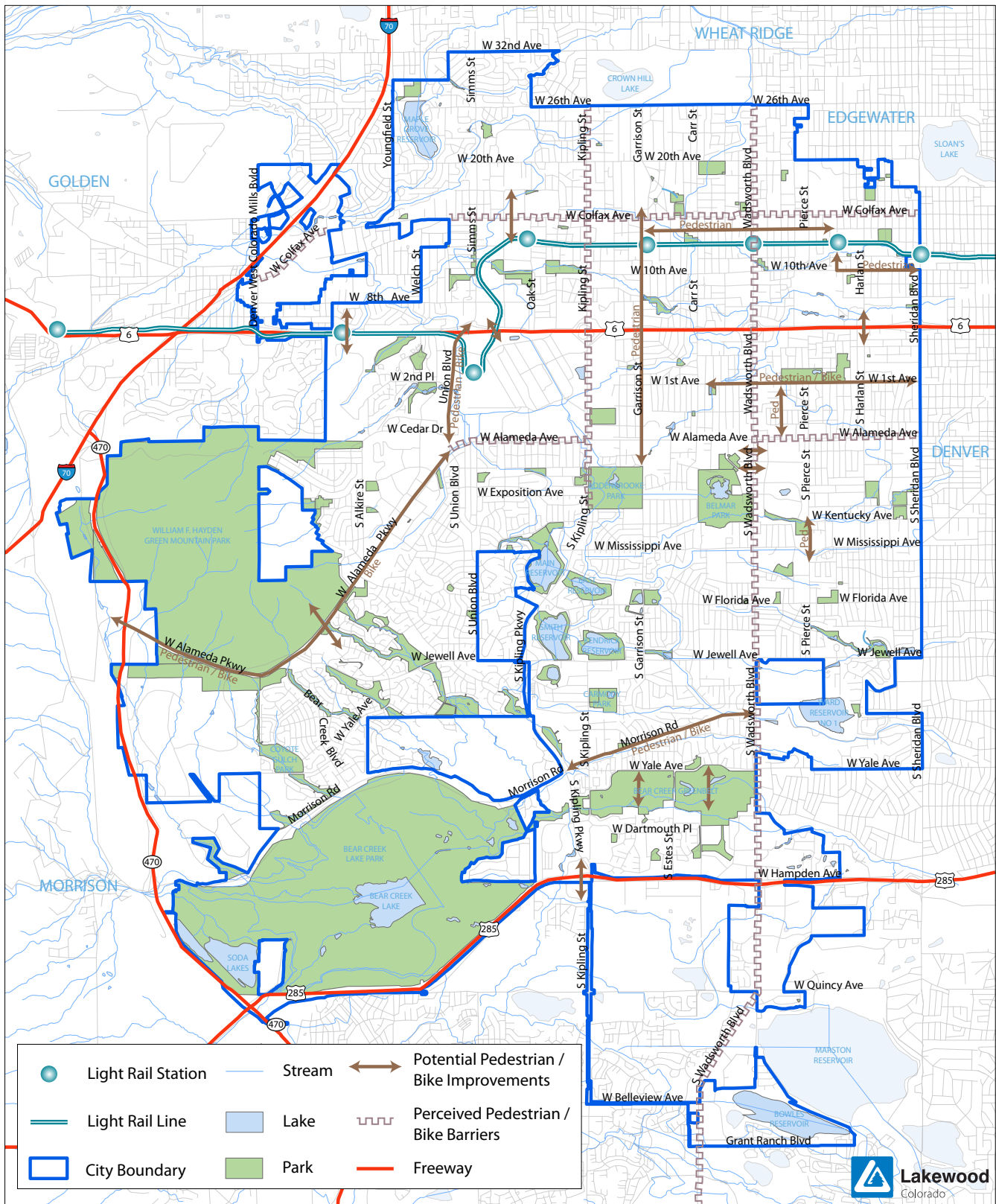
Because every trip begins and ends as a pedestrian, a safe and accessible pedestrian network for all ages and all abilities is a key component to creating a desirable and livable community. Residents of Lakewood need to feel safe while walking, both from vehicular traffic impacts and from the perception of crime. A well-designed pedestrian network can improve the safety of neighborhoods and the community as a whole on both levels.

An environment in which people are comfortable using the sidewalk system helps build a healthy community and prevents crime by adding “eyes on the street,” while facilitating a lively atmosphere. Ensuring that streets and intersections are accessible to all ages and ability levels ensures safety, opportunities for physical activity, and a pleasant pedestrian experience for everyone.

Lakewood envisions a pedestrian-friendly environment where public spaces, including sidewalks and off-street paths, offer a level of convenience, safety, and attractiveness to the user that will encourage and reward the choice to walk for recreation and for short trips instead of driving.

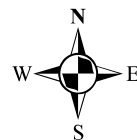
Lakewood's current pedestrian system includes off-street trails and attached and detached sidewalks adjacent to streets. Several regional trails that connect to other parts of the Denver metropolitan area also traverse Lakewood.

The City has made great strides in creating a complete sidewalk, path, and trail system since incorporation in 1969. However, because large portions of the city were developed prior to the formation of Lakewood, missing sidewalks, trail links and inadequate pathways exist in many areas. Completion of the necessary pedestrian system will require additional time, prioritization, and funding.



### Map 6-a

## Pedestrian & Bicycle Mobility Identified Areas of Concern





### Pedestrian and Bicycle Mobility Issues

The City continually evaluates pedestrian and bicycle mobility issues and deficiencies throughout the community. Additionally, the City reviews requests for improvements and, as funds become available, prioritizes construction of the physical improvements. Pedestrian and bicycle mobility issues are identified by the public and City staff through many different venues. As part of the Lakewood 2025: Moving Forward Together process, the public was asked to identify real or perceived mobility issues.

Locations of major pedestrian and bicycle deficiencies and barriers identified by the Lakewood community during the Lakewood Moves open house and by the Comprehensive Plan Advisory Committee are identified on Map 6-a on the previous page. The perceived barriers include crossings of the streets as well as concerns parallel to the street, such as missing sidewalk and bicycle trail or lane sections. Potential improvements are identified by the type of improvement to be considered. Many of the proposed improvements identified by the public are complex projects that will take time to design and implement.



# Bicycle System

Lakewood is committed to supporting bicycling as a form of mobility, as well as recreation. Bicycling is a basic mode of transportation that is sometimes overlooked as an option to help manage circulation issues and concerns.

As part of both the short- and long-term vision, Lakewood supports and funds the planning and development of bicycle-friendly projects, streets, and neighborhoods for both commuter and recreational users.

An underlying principle in transportation planning is to provide a system that allows riders ample transportation mode choices, and a reasonable balance in accommodating those choices, without favoring one mode at the expense of all others. This means in order to achieve a balance within the current transportation network, bicycling must be made more attractive and truly be a viable option for transportation. This option includes creating a network comprised of on-street and off-street bicycle facilities and end-of-trip facilities, such as changing areas and secure storage locations.

The City has previously adopted the *Lakewood Bicycle System Master Plan* that serves as a policy document to guide the development and maintenance of bicycle facilities throughout the community as part of the transportation and recreation network. The policies in the master plan address issues related to bikeways such as planning, community involvement, utilization of existing resources, facility design, safety and education, funding, and more.



## Bike Network Options

There are several types of bicycle facilities that are utilized throughout Lakewood including:

### Shared Use Paths

Shared use paths are hard surface facilities generally eight to ten feet wide exclusively for non-motorized users. Paths can be located adjacent to a street or located through open space areas. Paths can be grade separated at street intersections or have signalized crossings. Paths are usually shared with pedestrians.

### Bike Lanes

Bike lanes are marked as on-street lanes for bicycle travel. Lanes are generally five to six feet wide from the edge of the street curb. Bike lanes do not have barriers from adjacent vehicular traffic.

### Separated Bikeways

Separated bikeways are bicycle facilities that are separated from traffic by parked cars, posts, planters or painted buffer zones. These facilities are generally designed for one-way bike traffic, but can sometimes accommodate two-way traffic.

### Bike Routes

Bike routes are typically wide travel lanes shared by bicyclists and vehicles. They are commonly marked by bike route signs and can be supplemented with shared right-of-way pavement indicators and signs.

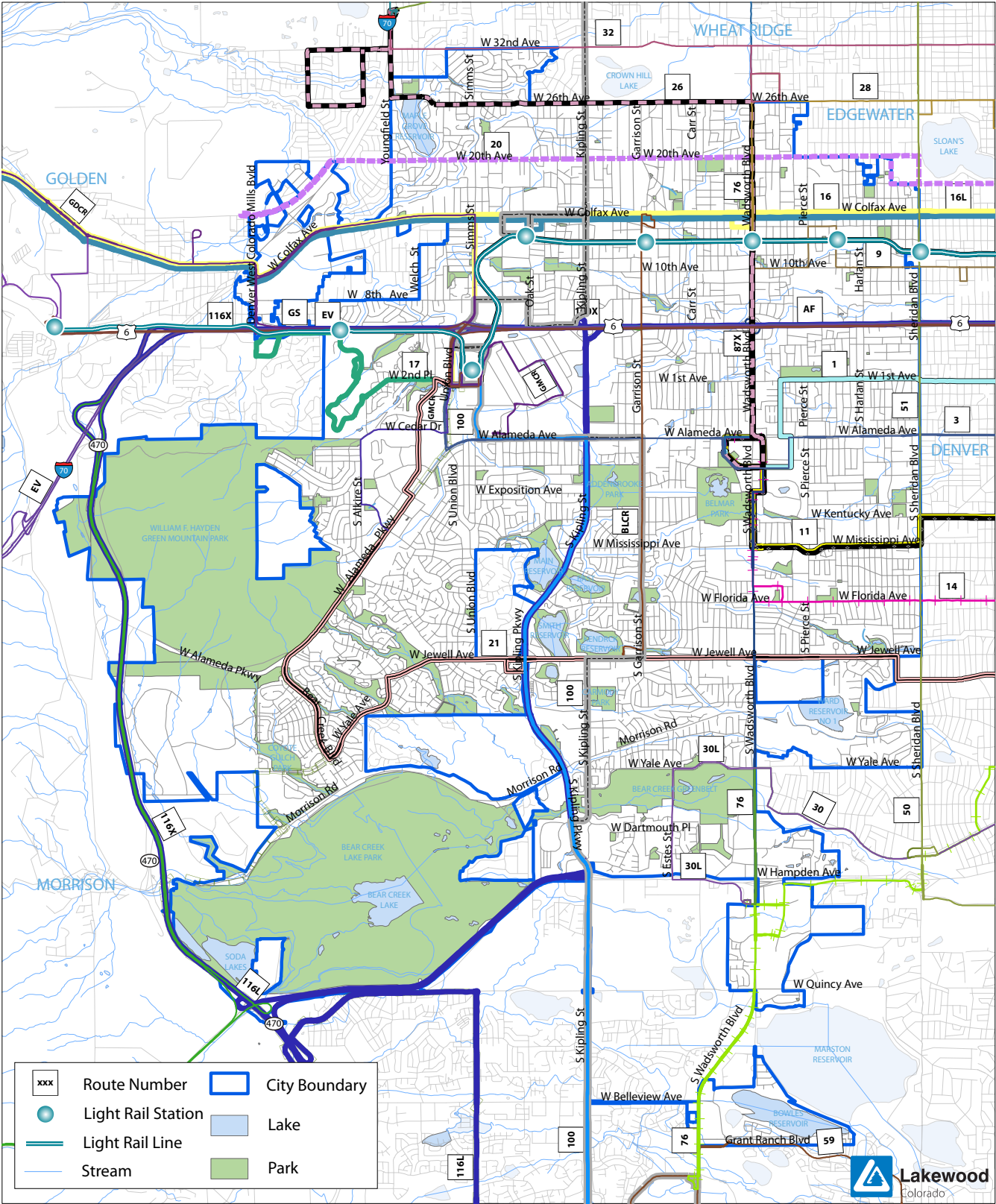
# Transit System

Transit in Lakewood includes a variety of transportation modes that provide mobility to the public in shared vehicles, ranging from carpool opportunities to bus and rail. Transit plays an integral role in improving local and national prosperity, equity, and mobility, and has been cited as a crucial part of the solution to economic, energy, and environmental challenges, therefore helping to bring a better quality of life.

Lakewood is served by the Regional Transportation District (RTD) which operates buses, rail, and accessible transit vehicles. A number of bus routes connect Lakewood neighborhoods to major employment and retail destinations within the city, as well as in the Denver metropolitan area. The West Rail Line connects the northern portion of Lakewood to Golden on the western side of the metro area, to Union Station in downtown Denver, and to various neighborhoods within Lakewood. RTD operates two major bus transfer facilities within Lakewood - one in downtown associated with the City's Civic Center complex and one in conjunction with the Federal Center light rail station. A third transfer facility is located just outside of the city limits at the southwest corner of the Hampden Avenue and Wadsworth Boulevard interchange.

In the future, additional transit service is envisioned to help mitigate congestion on Lakewood's street network by providing energy efficient, pollution-reducing transportation choices. These choices should also help to reduce greenhouse gas emissions. Additionally, transit continues to be one of the safest modes of travel in the United States. Various studies indicate that riding a transit bus is up to 91 times safer than car travel.





# Street System

The street network serves as the backbone of Lakewood's transportation system. Streets and highways contribute to the overall community in three ways. First, they connect neighborhoods with each other, and to areas beyond. Second, they allow for the movement of commodities and freight and, therefore, provide economic benefit. Third, they are a focal point for activity and social events that help establish community identity. It is important to maintain an efficient and reliable street network.

Streets within the city are defined using a hierarchical classification system. Each type of roadway is described by its size, function and capacity. The street system includes various types of roadways, ranging from high capacity limited-access highways, to two-lane undivided local streets. Some streets have a rural cross-section without sidewalks in several areas within the community.

Several major streets and highways within Lakewood are under the purview of the Colorado Department of Transportation (CDOT). Those roadways include Interstate 70, C 470, US 6, US 285, Colfax Avenue, Wadsworth Boulevard, Sheridan Boulevard, Morrison Road, and Kipling Street/Parkway.

## Lakewood Street Classifications

### Limited-Access Highways

Limited-access highways provide high speed, regional roadway connections with interchanges typically found at arterial street crossings. Freeways are a minimum of four lanes wide, with continuous medians separating opposing traffic lanes. Freeways do not provide access to individual properties. There are four freeways that traverse all or a part of Lakewood. The freeways are Interstate 70, Colorado State Highway 470 (C 470), US 285 (Hampden Avenue) and US 6 (West 6th Avenue).

### Arterial Streets

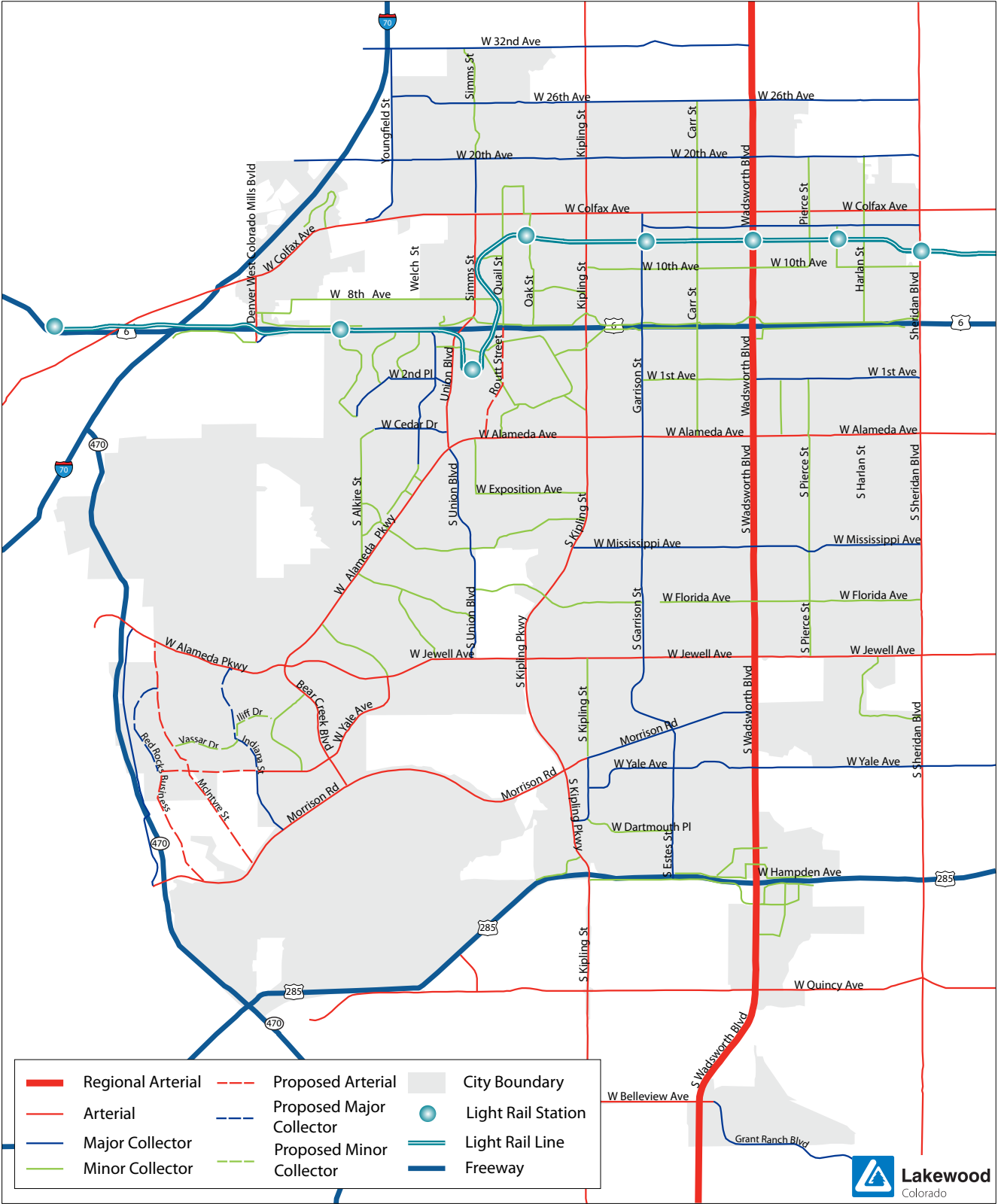
Arterial streets are designed as four to six lane facilities with dedicated turn lanes. Arterials provide limited access to adjacent properties and have traffic signals at major intersections, typically at other arterials and major collector streets. Arterial streets in Lakewood include Wadsworth Boulevard and Colfax Avenue.

### Major Collector Streets

Major collector streets are designed as two lane facilities with a two-way center left turn lane. Major collector streets provide access to adjacent commercial properties and residential neighborhoods. Traffic at intersections is typically controlled by roundabouts or traffic signals. At local streets traffic control is provided by stop signs. Major collector streets in Lakewood include Garrison Street and Mississippi Avenue.

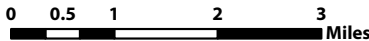
Lower classification streets exist in Lakewood. However, they are not identified on the Major Roadways and Transit Corridors map. Those classifications include minor collector streets, commercial and multi-family local streets and residential local streets.

Additional detailed information about streets can be found in the *Transportation Engineering Design Standards*.



## Map 6-c

## Major Roadways



# Movement of Goods & Services

Efficient transportation of goods and services is central to Lakewood's economic competitiveness. The retail, manufacturing, finance, insurance, real estate, and service sectors of the economy make up a large percentage of the City's revenue sources. The freeways and arterial streets comprise a critical link of the city's circulation system. Ensuring an efficient city street system to facilitate the movement of goods and services helps ensure that the economy continues to flourish.

Truck transport of goods on surface streets is the most frequent method of delivery for products in the community. Making sure that the city continues to have well-maintained roadways is important for both citizens and businesses.

## GOAL M-MT1

**Improve the pedestrian and bicycle environment within the City.**

### ACTION STEPS

- a. Develop prioritization criteria to continue the construction of missing sidewalk and trail links throughout the City, with those along arterial and major collector streets being the highest priority.
- b. Evaluate revisions to the City's sidewalk installation policy to require that sidewalks meeting current standards are installed with development and redevelopment within the growth and activity areas identified in *Lakewood Innovates*.
- c. Develop methods to promote the use of existing bicycle facilities as an alternative mode of transportation for citizens and visitors.
- d. Identify and prioritize locations where it is feasible to construct additional or longer median breaks along arterial streets to provide pedestrian and bicycle refuge areas for street crossings at non-signalized intersections.
- e. Plan for the long-term possibility of providing bicycle and pedestrian connections across US 6 between Sheridan and Wadsworth boulevards, at Routt Street, and at the Red Rocks West Rail Line station.
- f. Review and update the *Lakewood Bicycle System Master Plan* to ensure that the City continues to develop a safe and comprehensive bicycle network that serves both recreational and commuter needs.
- g. Continue to implement, and annually evaluate, the recommendations of the *West Rail Line Neighborhood Transportation Study*.
- h. Evaluate pedestrian and bicycle level of service within the City and develop a plan and identify funding opportunities to improve the level of service.
- i. Evaluate locations where it is appropriate to install pedestrian and bicycle crossing signals at high-traffic locations between existing traffic signals.
- j. Implement a public education campaign to promote pedestrian and bicycle safety and driver compliance with pedestrian-related laws and regulations.
- k. Evaluate locations for the installation of "Stop for pedestrians in crosswalk, State Law" signs at problem intersections.
- l. Continue to evaluate and implement an area-wide Safe Routes to School program.

### West Rail Line Neighborhood Transportation Study

During the planning and construction of the West Rail Line along 13th Avenue there was a great deal of concern in the residential neighborhoods about the traffic impacts the light rail line would bring to the corridor. In order to respond to these concerns, the City of Lakewood undertook a study to document the changes in traffic, parking, accident patterns, and access by alternate modes to the newly constructed West Rail Line.

The study focused on the impacts to on-street parking and vehicular operations of the roadway network near the West Rail Line stations. Site specific data was collected and evaluated for the study area and no significant changes were observed in the functionality of the vehicular system. Additionally, the study looked closely at other neighborhood concerns about safe non-motorized access to the West Rail Line after operations began. The project sought to identify existing barriers to access transit stops for all modes, inform stakeholders of industry best practices relating to improving non-motorized circulation, and propose infrastructure improvements in and around the selected stations. These improvements were based on extensive existing conditions documentation, including fieldwork and Geographic Information Systems (GIS) analysis, industry research, public outreach efforts, and financial feasibility.

The study was designed to serve as a guiding document for the City of Lakewood to prioritize infrastructure improvements for capital projects, secure funding for the West Rail Line station area improvements, implement the goals of the previous planning efforts, and improve access to and from these stations for local residents and commuters, thereby reducing parking demand and increasing transit ridership.

## Pedestrian and Bicycle Crossing Signals

The following are examples of crossing signals that have been utilized in Lakewood:

A HAWK signal (High-Intensity Activated crossWalk beacon) is a traffic signal used to stop vehicular traffic and allow pedestrians to cross an intersection safely. It is officially known as a Pedestrian Hybrid Beacon (PHB). The purpose of a HAWK signal is to allow protected pedestrian crossings, stopping road traffic only as needed. Where standard traffic signal 'warrants' prevent the installation of standard three-color traffic signals, the HAWK signal provides an alternative.

A PELICAN signal (PEdestrian Light Control Activation) is designed to control traffic at mid-block crosswalks by allowing a pedestrian to push a button to give approaching motorists a red light. When the motorist gets a red light, the pedestrian signal indicates it is o.k. to cross the street. A PELICAN looks like a typical traffic signal with green, yellow, and red phases. Two phase PELICAN signals can be installed at crossings of median divided streets to reduce the length of the red light for motorists. In this situation, the pedestrian activates a second signal from the street median.

Pedestrian crossing signs with pedestrian-activated LED lights can be installed at mid-block crossings of local or collector streets.



## GOAL M-MT2

**Improve transit connections between neighborhoods and growth and activity areas, as well as between growth and activity areas.**

### ACTION STEPS

- Identify and prioritize potential routes for shuttle bus or rail circulator systems for specific areas of the city to connect neighborhoods and destinations, such as West Rail Line stations, Downtown Lakewood, the Union Boulevard corridor and Academy Park as densities in these areas increase.
- Create a process to review proposed service changes and provide RTD with input regarding modifications to existing bus routes so that the routes can provide better connections between residential and commercial areas within the city.

### GOAL M-MT3

#### Promote the use of shared transportation options.

##### ACTION STEPS

- a. Examine the feasibility of implementing a shared bicycle system within Lakewood by evaluating station locations, partner organizations, and funding mechanisms.
- b. Encourage the expansion of car share options by engaging with operators in the Denver area and working with RTD to allow car share operations at West Rail Line stations.
- c. Update City ordinances and regulations as necessary to ensure that non-location based car share operations can be accommodated.
- d. Better promote and evaluate increased funding for the *Lakewood Rides* program to support the city's aging population and those with disabilities.

### GOAL M-MT4

#### Educate residents about, and encourage the use of, alternatives to the automobile.

##### ACTION STEPS

- a. Develop an educational campaign regarding transportation alternatives that are currently available within Lakewood and the Denver region.
- b. Promote RTD transit pass discounts and incentives, such as the Eco-pass, to Lakewood employers and businesses.
- c. Evaluate and prioritize opportunities for the City to support transit through subsidies or bulk purchase of transit passes for residents at a discount.
- d. Educate citizens on the negative environmental impacts of automobile usage, particularly the single-occupant trip.

### GOAL M-MT5

#### Provide adequate maintenance of the existing transportation network to provide safe and reliable options.

##### ACTION STEPS

- a. Identify appropriate funding levels for the long-term maintenance of the existing network of city streets to provide reliable vehicular transportation, ensure quality emergency response, safety for all users, and the effective delivery of goods and services.
- b. Identify appropriate funding levels to maintain the City's existing bike and pedestrian network.
- c. Continue to coordinate with CDOT and other regional partners to provide and secure future funding for necessary maintenance of state and federal highways within the City of Lakewood.

**GOAL M-MT6****Ensure that adequate transit service and schedules are provided within the city.****ACTION STEPS**

- a. Communicate with RTD as the agency evaluates current bus routes and route schedules to provide the best service possible to Lakewood residents, visitors, and businesses.
- b. Annually review ridership data and advocate for increased West Rail Line frequency and/or capacity as necessary to meet community and commuter needs as the city continues to grow.

**GOAL M-MT7****Strategically provide additional capacity and operational efficiencies on roadways to limit congestion and expand multi-modal options.****ACTION STEPS**

- a. Continue to pursue funding for capacity improvements to Wadsworth Boulevard and the reconstruction of the US 6 and Wadsworth Boulevard interchange.
- b. Increase the utilization of the latest Intelligent Transportation System (ITS) technology to improve signal progression, identify and notify motorists of incidents on the roadways, and increase system reliability.
- c. Continue to implement the recommendations of the multi-jurisdictional *Countywide Transportation Plan*.
- d. Identify and prioritize opportunities to implement Complete Street improvements along arterial and major collector streets within Lakewood to increase multi-modal travel options.
- e. Monitor intersections that may reach capacity by 2025 and pursue funding opportunities to improve the intersections as necessary. Intersections that may reach capacity include Alameda Avenue and Union Boulevard, and Alameda Avenue and Kipling Street.

**GOAL M-MT8****Reduce speeding on local streets through residential neighborhoods.****ACTION STEPS**

- a. Review Police Department policies to ensure that speed limits are enforced along neighborhood streets.
- b. Evaluate and determine the need for traffic calming methods on local streets when requested by neighborhood organizations or neighborhood groups. Ensure that any traffic calming elements installed comply with City standards and construction criteria.

# FUTURE TRANSPORTATION IMPROVEMENTS

## Overview

As Lakewood continues to reach build-out of vacant private properties, and continues to promote and encourage infill and redevelopment, the city's transportation system will need to be reevaluated. It may no longer be possible, or appropriate, to add through travel lanes to streets and roadways beyond those improvements identified in the City's *Functional Plans*. Therefore, it will be increasingly important to evaluate alternatives to the automobile for transportation.

Encouraging residents to utilize expanded transit choices, and walk and bicycle to newly redeveloped commercial and mixed-use areas will be extremely important.

The connection between transportation and growth areas, as identified in *Lakewood Innovates* will need to be considered as future transportation improvements are proposed. The City has previously revised the Zoning Ordinance and zoning map to facilitate higher density, mixed-use development in specific areas and along corridors with strong transit service. However, increasing the frequency of transit, encouraging new transit routes, and providing pedestrian and bicycle opportunities for commuting will be important in achieving the desired vision of the growth areas and zoning.



## GOAL M-FI1

### Plan for the future transportation connectivity needs of the city.

#### ACTION STEPS

- Develop a citywide multi-modal transportation plan to create a coordinated and cohesive vision for Lakewood's future transportation system, based on existing zoning and projected growth.
- Evaluate the existing *Street Functional Plans* to determine if updates are necessary to accommodate future transportation needs.
- Collaborate with surrounding jurisdictions and appropriate agencies to provide future, and enhance existing, regional vehicular and non-vehicular connectivity.
- Partner with RTD and other local and regional partners to identify options for future connections to light rail stations and transit centers from neighborhoods throughout the city and in adjacent jurisdictions as appropriate.
- Develop criteria and policies to connect or reconnect streets within the city where such connections are appropriate for future transportation needs.
- Continue to implement, and annually evaluate, the connectivity and transportation recommendations of the *Federal Center/Union Boulevard Corridor Connectivity Plan* and the *Downtown Lakewood Connectivity and Urban Design Plan*.
- Evaluate regional solutions for north-south connectivity through Lakewood. Develop alternative solutions to additional widening of Wadsworth Boulevard beyond six through lanes, such as high capacity transit as recommended in *DRCOG's Metro Vision Plan*.

#### A Multi-Modal Transportation Plan for the City

A multi-modal transportation plan can provide individual, yet integrated, plans, policies and programs for all aspects of transportation in Lakewood, including transit, pedestrians, bicycles, parking and roadways and will result in a long-range capital plan with funding strategies that will serve as a blueprint for future investments in the transportation system.

A multi-modal plan can include a review of several long-standing transportation policies, programs and opportunities including the potential for developing a comprehensive sidewalk improvement program; Safe Routes to School Program; parking plans for congested areas; a traffic calming toolbox for pedestrian crossings; a "green streets" program for paving and storm water infrastructure; a road diet or complete streets plan, and a transit coordination plan.



**GOAL M-FI2**

**Ensure that transportation options are available for all citizens regardless of age, physical ability, or economic status.**

**ACTION STEPS**

- Work with RTD and accessibility organizations to identify routes that provide a maximum amount of accessibility to citizens and visitors.
- When evaluating and implementing future City transportation planning efforts, ensure that all mobility modes are considered for accessibility.

**GOAL M-FI3**

**Promote a holistic view of future transportation connectivity improvements.**

**ACTION STEPS**

- When street or intersection improvements are made, identify opportunities to improve connectivity for all modes of transportation, particularly for pedestrians and bicycles.
- Coordinate all street or intersection improvements with regional transportation partners to ensure that expanded public transit options can be accommodated in the future.
- As an alternative to roadway expansion, evaluate and develop transportation demand management solutions in congested corridors where increased density and development is desired.

### Transportation Demand Management

Transportation Demand Management (TDM) is a layer of policies, programs, information, services, and tools that work with the transportation infrastructure and operations to support the use of sustainable modes for all trips. Together, TDM strategies result in reducing the need to rely on single occupant vehicle (SOV) trips and can help reduce households' need for car ownership. The goal of TDM is to help households, employees, and visitors make more of their trips by transit, by bike, on foot, or in shared vehicles such as taxis and car share cars. Not only do TDM strategies reduce congestion, they improve the utilization of existing services and can result in cost savings to companies and individuals.

**GOAL M-FI4**

**Limit the physical impacts of future traffic congestion relief projects.**

**ACTION STEPS**

- Develop criteria to evaluate large-scale widening of arterial streets in terms of cost and benefit on the surrounding urban environment. As a rule, no arterial street in Lakewood should be expanded beyond six through travel lanes.
- Construct intersection improvements or make operational improvements, such as additional turn lanes or adjusting signal timing, to reduce traffic congestion and limit roadway expansion. Intersection improvements should always increase pedestrian and bicycle safety in addition to congestion relief.
- Through site planning and improvement projects, continue to focus on access management efforts, such as shared access drives, to reduce traffic congestion and increase safety.

**GOAL M-FI5**

**Consider all types of public transit options within the city for future mobility.**

**ACTION STEPS**

- Evaluate all existing and new transit alternatives when determining the best public transit options for the residents of Lakewood when developing and updating the multi-modal transportation plan.
- Develop and implement a method for evaluating the impact of various public transportation options on the built environment prior to operation. Make sure options have a positive impact on the built environment by allowing for, and supporting, greater densities and mixed-use development in the designated growth areas.

**Ideas for Tomorrow?****GOAL M-FI6**

**Plan future transportation improvements with regional partners.**

**ACTION STEP**

- Coordinate with adjacent communities, regional planning agencies, and transportation organizations when planning future transportation improvements.

**GOAL M-FI7**

**Coordinate and support future transportation improvements with the city's land use vision.**

**ACTION STEPS**

- a. Develop criteria to ensure that a link between increased transportation options and higher density land use is made when reviewing site plans. A greater variety of transportation options should be available in denser, mixed-use areas to minimize the need for single-occupant vehicle trips.
- b. Ensure that the future physical organization of the city will be supported by a framework of transportation alternatives that balance access, mobility, safety, and emergency response.

**GOAL M-FI8**

**Minimize the impacts of the transportation system on the city's environment and neighborhood quality of life.**

**ACTION STEPS**

- a. Determine the appropriate physical design treatments to reduce noise in residential neighborhoods and mixed-use residential areas before a major capacity improvement project is initiated.
- b. Develop a method to evaluate air quality, noise, light/glare, and other significant adverse environmental impacts of proposed transportation projects on adjacent neighborhoods.

**GOAL M-FI9**

**Ensure that the safety for all modes of transportation are considered with future transportation improvements.**

**ACTION STEP**

- a. Annually review opportunities to fund and implement improvements that will increase safety on streets, highways, and pedestrian and bicycle facilities within the city.



# COMPLETE STREETS

## Overview

Lakewood will continue to work towards the full implementation of a Complete Street system. Complete Streets is a movement to ensure that planners and engineers consistently design and construct new streets, and retrofit existing streets, with the safety and accessibility of all users in mind — bicyclists, transit vehicles and riders, pedestrians of all ages and abilities, and motor vehicles, as well as goods and services providers.

Complete Streets involve instituting smart growth policies that expand transportation choices to ensure that roadways function as truly multi-modal transportation networks, as opposed to being primarily motor vehicle-oriented.

What it takes to make a street “complete” varies depending on many factors. Components may include sidewalks, bike lanes (or wide paved shoulders), special transit lanes, comfortable and accessible transit stops, frequent pedestrian and bike crossing opportunities, median islands, accessible pedestrian signals, curb extensions, and more. A complete street in north Lakewood may look and operate quite differently from a complete street in downtown or the southern portion of the city, but they will all be designed to balance safety and convenience for everyone using the road.

### Each Application is Unique

Complete Streets may exist in a variety of forms and locations, there is no prescription for their design.

A Complete Streets approach is incremental and allows roadway design to respond to different users...



Pedestrians



Cyclists



Transit



Trucks and goods movement

...and the character of neighborhoods, buildings, and land uses adjacent to the roadway.



Residential



Urban mixed-use



Industrial

## GOAL M-CS1

**Promote the development of roadways that are designed to safely accommodate street function for all users including pedestrians, bicyclists, drivers, and transit riders.**

### ACTION STEPS

- a. Evaluate and determine how Complete Street efforts can be fully implemented on arterial and major collector streets, unless significant physical constraints exist. Kipling Street, Garrison Street, Alameda Avenue and Colfax Avenue should be the highest priorities for improvements. Evaluate opportunities for additional secondary pedestrian and bicycle routes parallel to arterial streets such as Wadsworth Boulevard.
- b. Review site plans to ensure that new development and redevelopment within the designated growth areas improve street frontages to meet Complete Street standards.

## GOAL M-CS2

**Consider the desired land uses and development character adjacent to streets when roadway improvements are planned.**

### ACTION STEPS

- a. Review roadway improvement plans to ensure that the desired design character of the area, as defined by zoning designations, is not adversely impacted.
- b. Review roadway improvement plans to ensure that Complete Street components are appropriate for the desired character of the area are included.

## GOAL M-CS3

**Consider long-term options for exclusive transit lanes and facilities along arterial streets.**

### ACTION STEPS

- a. Evaluate the possibility of dedicated transit lanes on Alameda Avenue, Colfax Avenue and Wadsworth Boulevard. Consider all transit options including bus rapid transit (BRT), streetcar, light rail and urban gondola.
- b. Coordinate with regional partners to determine the public and multi-modal transportation needs along Wadsworth Boulevard.

## Transit Options

There are a number of different transit options that should be considered for Lakewood. They include:

### Buses

Buses use conventional roads to carry numerous passengers on transit journeys. Buses operate with moderate capacity and on conventional roads, with relatively inexpensive bus stops to serve passengers. Buses range in size from 45 to 90 passengers.

### Bus Rapid Transit

Bus rapid transit (BRT) is a term used for buses operating on dedicated right-of-way, much like a light rail. The buses are usually more stylized, with tickets purchased at kiosks at stops, rather than on the bus as with typical service. Vehicle capacity is typically 70 to 90 passengers.

### Light Rail

Light rail is a modern version of the tram, with dedicated right-of-way not shared with other traffic. Light rail tracks can be grade-separated or at-grade for street crossings. Light rail lines have fewer stops than with buses and generally travel at high speeds. Light rail can carry a large number of passengers, which varies depending on the number of vehicles connected together.

### Streetcar

A modern streetcar is a rail vehicle that is designed to operate in an urban environment in mixed traffic. The guideway is composed of rail that is typically embedded in the roadway, which is designed for other vehicular traffic as well. The capacity of a streetcar is similar to bus rapid transit.

### Gondola

A gondola or Cable-Propelled Transit (CPT) is a transit technology that moves people in motorless, engineless vehicles that are propelled by a steel cable above the ground. Gondolas can have several stops and operate along corridors similar to streetcars.



# WAY-FINDING AND INFORMATIONAL SIGNS

## Overview

Way-finding relates to the built environment and makes streets, neighborhoods, and the city more “legible,” helping people find their way around the community. Way-finding can be an important part of the city’s transportation system, making it easier to find destinations, whether in a car, on a bike, or on foot.

Signage can be oriented and sized for a variety of locations and contexts. But, common elements are a key feature. For example, large-scale highway signs can be installed along US 6 and I-70 to direct visitors to the city, while smaller signs can be oriented to pedestrians in the downtown area and along Colfax and Alameda Avenues.

Way-finding can also be more than just signage. It can include map kiosks, the use of mobile technology, as well as elements of the public realm such as lighting, street furniture, and public art to benefit residents, businesses, and tourists alike.

Way-finding systems are becoming increasingly common in cities throughout the United States and around the world. Such systems provide a sense of identity and place, ensuring visitors and residents can explore and visit key destinations and attractions within a community.

### Way-finding System Benefits

The benefits of a citywide way-finding system include:

#### **Aesthetic:**

- Reducing visual clutter
- Replacing multiple mismatched sign efforts with one comprehensive coordinated streamlined system that fits well with the city’s character and distinctive neighborhoods and attractions

#### **Environment and Safety:**

- Directing cars to public parking facilities, such as those in the Civic Center Complex and Belmar
- Promoting walking, biking and mass transit usage
- Reducing traveler confusion

#### **Economic Development:**

- Establishing a comprehensive multi-layer strategy to improve pedestrian/vehicular wayfinding to amenities such as downtown, the 40 West Arts District, and Denver West
- Incorporating regional/city trails and historic sites such as the Heritage Center
- Being a key component of the City’s retail strategy and to economic development citywide
- Providing a more comfortable and informative visitor experience

## GOAL M-WS1

**Provide signage to assist residents and visitors in finding Lakewood’s civic amenities and shopping districts.**

### ACTION STEPS

- a. Implement, and annually evaluate, the recommendations of the *Downtown Lakewood Connectivity and Urban Design Plan* for the downtown area.
- b. Develop and implement a citywide way-finding system plan.
- c. Coordinate with CDOT and RTD to provide appropriate way-finding signage along US 6 and I 70, and at rail stations and transit centers.
- d. Coordinate with Jefferson County and other area cities to develop and implement a consistent bike way-finding system for the county.