Section 3: Overview of Existing System

A clear understanding of the existing transportation facilities and how well they are serving the needs of Loveland's residents is an essential first step toward a relevant and useful planning document. This chapter summarizes the inventory of street, transit, bicycle, and pedestrian facilities as well as the various Transportation Demand Management programs that are currently in place.

Existing Street Network

The street network in Loveland has approximately 330 miles of arterial, collector and local streets. Its historic core is roughly bounded by 1st Street, Madison Avenue, Eisenhower Boulevard, and Taft Avenue. The core was fully developed in Loveland's early history and is mostly laid out in a tight grid system of tree-lined streets that provide many routing options for motorists seeking either local or through travel to their destinations.

The recent growth areas have both suburban and rural characteristics, reflecting the development patterns of the 1970s and beyond, including fewer through streets, more curving roads and cul-de-sacs. The outer area also contains over 35 lakes of varying size and shape, which, when combined with the relative lack of through streets, present many manmade and natural barriers to through travel. These barriers contribute to a lack of continuous arterial streets and limit both north-south and east-west travel in and through the City.

Streets in Loveland are classified using the typical hierarchy of arterial, collector and local streets. The functional classification of streets is related to the degree of mobility or access they provide. Arterial streets function primarily to provide mobility through the community. They typically are two, four or six lanes wide, carry traffic volumes in excess of 7,000 vehicles per day, provide limited access and accommodate higher travel speeds. Collector streets have less restricted access points, "collecting" traffic from local areas by providing mobility through connections to the arterial network. Collectors typically consist of two lanes and carry 1,000 to 7,000 vehicles per day.

Local streets have the most access points to adjacent land uses and are typically low-speed, two lane streets with traffic volumes less than 1,000 vehicles per day.

Existing Traffic Volumes and Patterns

Construction and widening of the existing freeway and arterial street systems has not kept pace with the growth in traffic. While Loveland has made significant expenditures to maintain, widen, and extend the street network, the increase in local and regional travel is pushing many of the facilities beyond the adopted acceptable level of service.

Legend

- Growth Management Area
- Railroad
- City Limits
- Big Thompson River
- Lakes

Roadway Designations

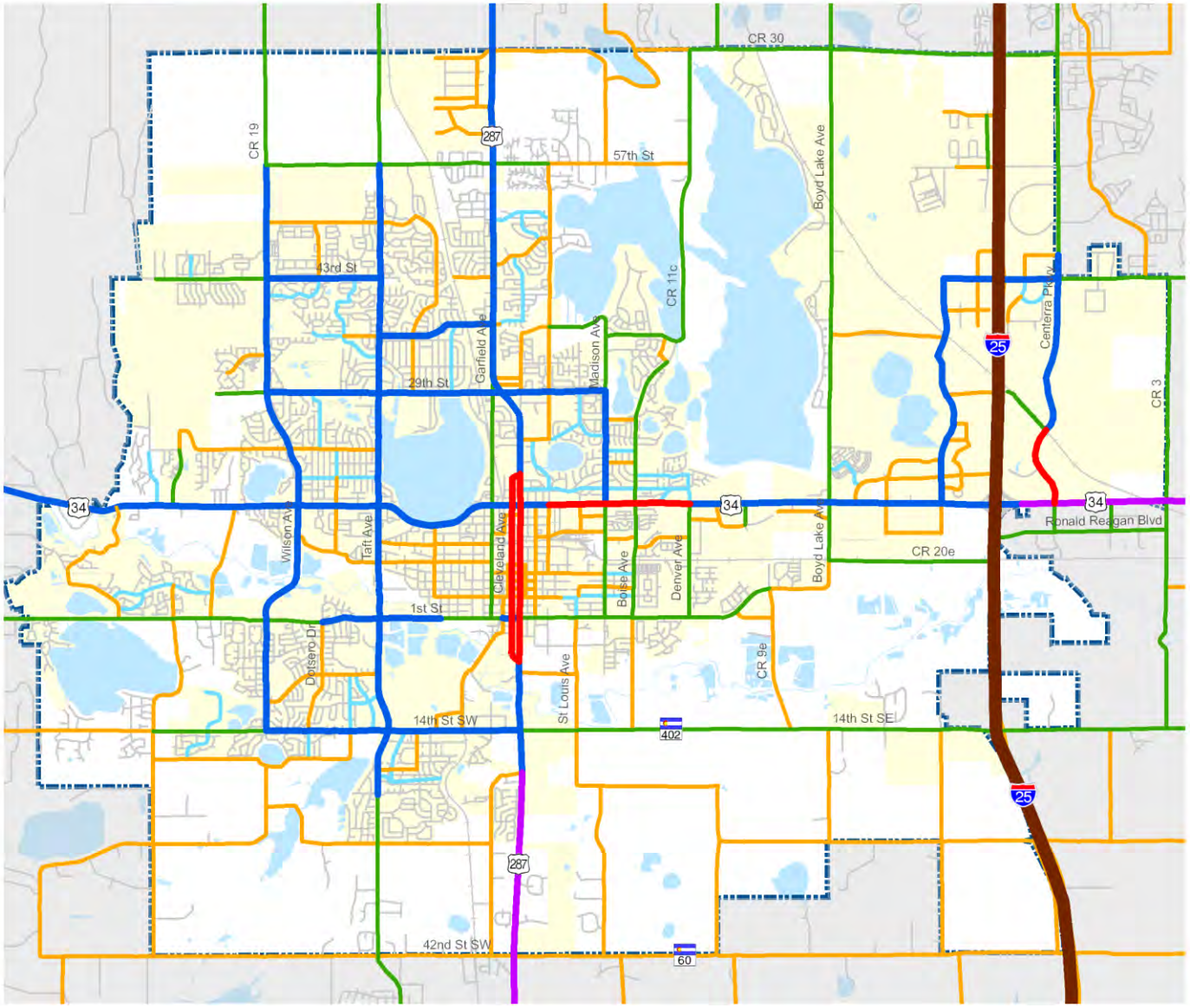
- Freeway 4 lanes
- Expressway 4 lanes

Arterials

- Major Arterial 6 lanes
- Major Arterial 4 lanes
- Minor Arterial 2 lanes

Collectors

- Major Collector
- Minor Collector



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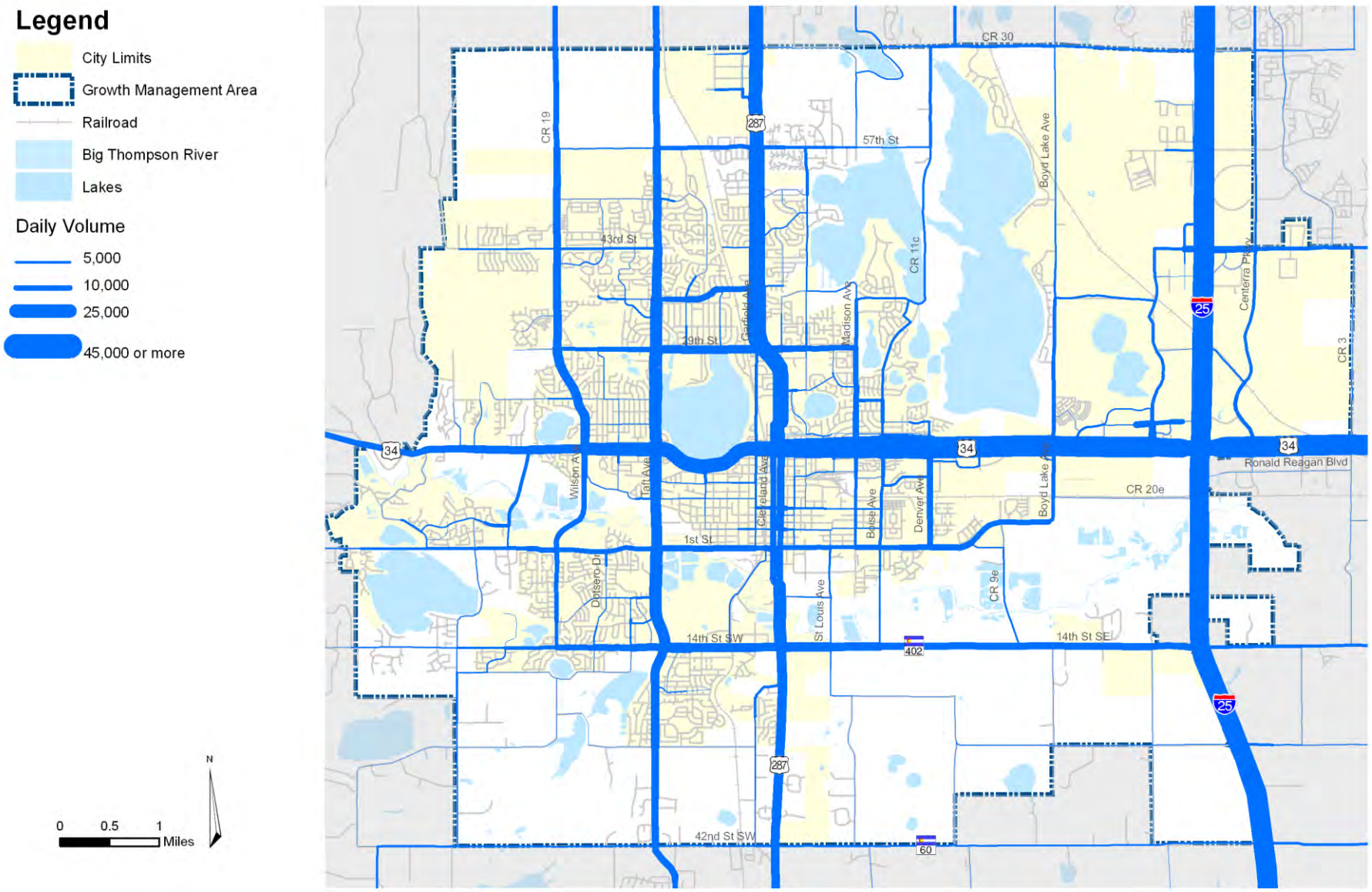
EXISTING STREET NETWORK



EXISTING TRAFFIC VOLUMES

A number of streets are currently experiencing significant congestion problems:

- US 287 from the north end of one way couplet to 71st Street
- Numerous sections of Eisenhower Boulevard

East-west mobility, addressed in the aforementioned East-West Mobility Study, continues to present challenges to the continuous flow of traffic in Loveland. Since the network is physically constrained by the lakes in the City, US-34 (Eisenhower) and SH-402 (14th Street) are forced to carry the majority of east-west traffic. North-south mobility in the City is also limited to a few key streets (US 287 and Taft Avenue) that provide a continuous route through the entire City, and these routes are also constrained by the geography around Loveland.

Level of Service

Congestion problems in the City are directly related to the amount of traffic the street network can carry. Accurate measurement of the capacity of a given street in the network is essential to develop a clear picture of when and where improvements will be necessary.

Accordingly, one measure used to evaluate levels of service is the volume to capacity, or V/C ratio. On a level of service (LOS) scale of "A" to "F," streets capable of carrying more traffic than they currently have receive higher grades, and those with little or no excess capacity are referred to as failing. Currently, a number of streets in Loveland are experiencing LOS D, E, and F. Sections of Eisenhower and US-287 are congested and approaching or exceeding their estimated capacity.

During the development of the original 2020 Transportation Plan, a new, more refined methodology to measure street capacity was developed. Under the traditional LOS capacity measures, streets with similar functional classification and number of lanes are assigned the same estimate of capacity. The actual capacity of the street, however, is affected by a number of additional variables and can vary dramatically between arterials, collectors, and local streets with the same number of lanes.

Twenty-three of the most significant factors affecting street capacity are included in the "Adequate Community Facilities (ACF) Volume" methodology developed by Loveland's transportation engineering staff. Among these 23 variables are measurements of both engineering factors and human factors, which are then assigned an adjustment value to increase or decrease the effective number of vehicles per lane per hour that can be accommodated by the facility. The inclusion of these additional factors provides a more comprehensive view of actual street capacity. In general the allowable traffic has increased on state highways and newly reconstructed City arterials that have been built to higher standards. The ACF methodology is still in use today.

What is Level of Service (LOS)?

In 1965, the Transportation Research Board released the Highway Capacity Manual with the objective of defining a uniform measurement for determining how well a transportation system operates. The product of this work effort was the development of a grading system from A to F, where A is defined as excellent levels of service and F is failure.

Although there have been a number of updates to the Highway Capacity Manual since its first release in 1965, the measurement of level of service is typically defined by travel time and delay. This travel time and delay is calculated for intersections through delay equations which examine factors such as peak hour intersection turn volumes, lane configurations and signal timing. Levels of service for arterials are typically based on a volume/capacity ratio where the existing or projected volume of a roadway is divided by the roadway's capacity.

Whereas the methodology for determining level of service is relatively consistent between various communities and states, the threshold of what is determined as acceptable varies. The City of Loveland has established high standards for its street network. In 1996, the City Council adopted a LOS C standard for arterial streets, LOS B for collectors, and LOS A for local streets.

Existing External to External (E to E) Traffic

One significant impact on existing routes through the City is the external to external traffic that uses US 34, US 287, Taft Avenue, SH 402 and other streets to pass through on the way to and from other locations. As the region continues to grow and the number of visitors to Rocky Mountain National Park and Estes Park increases, this problem will continue to add to existing traffic volumes created by Loveland itself.

Existing Intelligent Transportation System (ITS)

The City of Loveland currently has approximately 93 traffic signals. The City has been very aggressive in ITS projects to maximize the carrying capacity of the City's street system and improving safety. Key ITS projects implemented by the City include the following.

- Loveland was the first city in Northern Colorado to install large, urban variable message signs (VMS). The first locations were two large LED variable message signs in the median of US 34 just west of Denver Avenue. These message boards are now shared and operated by CDOT from its state-wide Traffic Operations Center located in Golden, Colorado. The second location, on US 287 south of Loveland on Derby Hill, has one LED variable message sign. The Traffic Division designed and installed the smaller VMS sign in conjunction with a new weather station and video camera. This sign gives northbound US 287 motorists approaching the traffic signal at 19th Street SE at the south end of Loveland short roadway condition messages. This sign flashes messages including "icy roads" or fog when triggered by sensors from the roadway and weather station.

- Loveland was the first city in Northern Colorado to partner with CDOT to provide video camera images and roadway/weather data to CDOT's on-line traveler information system.

- A 2012-2013 project now underway includes the design and installation of four VMS message signs. The locations are on US 34 East of I-25 and on Fairgrounds Boulevard near the Budweiser Events center. These locations will feature 2 VMS signs back to back in the roadway medians.

- A current project in progress is installing state of the art, radar based, vehicle detection systems to optimize traffic signal timing along Centerra and Crossroads Blvd. Using this vehicle detection technology, signal timing will become more responsive to changing traffic needs in this big event, high traffic, area. This project uses FHWA grants for the majority of its funding.

- New central traffic signal system software and traffic signal controllers have been installed City-wide. Loveland was the first in Northern Colorado to use federal and local funds to replace an older central traffic computer system with a Naztec system and signal controllers at 85 of the 93 signalized intersections. Central control, easy timing plan updates for special events, and incident management are some of the benefits of the new system and communications.

- Fourteen miles of fiber optic cable have been installed in the past 3 years which includes a 5-mile extension to the Loveland-Fort Collins Airport offices. Design is now underway for the construction of 14 more miles of fiber (project cost of about $1 million dollars ($880,000 federal)). Expanded communications to additional traffic signals, video cameras, weather stations and other ITS devices city-wide will be the benefits of this project. Currently fiber provides communications to 30 traffic signals with 55 more signals using Ethernet radios for communications.

- A newly remodeled Traffic Operations Center (TOC) was opened in 2012. This modern TOC has two operator work stations, and a video wall to monitor 11 video surveillance cameras and traffic signals.

- The Traffic Division monitors pavement and/or weather conditions at 5 locations in the City, sharing the data with CDOT. The City owns and operates four of the five locations while sharing the data with CDOT, Loveland Street Department, and other city users. Some of this data is displayed along with video. Data is used by the Street Division to predict pavement conditions to pre-treat roadways and improve roadway safety.

Key Street Issues

Street Network

- East-West and North-South Mobility. Improvements to the street network are limited by Loveland's geography and the arterials that are in place will need to be improved and new arterials constructed to complete gaps in the system and provide relief to existing streets.

- Capacity Assessment. In order to meet level of service standards and prioritize funding of improvements, a baseline assessment of ACF volumes for all major streets has been determined and needs to be updated on a regular basis.

- Traffic Volumes and Patterns. In order to maintain appropriate level of service standards, analysis of development activity and phasing of improvements for both roads and intersections should continue.

- E to E Traffic. External to External traffic (traffic that moves through Loveland without stopping) will continue to impact Loveland's traffic volumes.

- ITS Improvements. Completion of interconnection of all traffic signals to centralized computer so that real-time adjustments can be coordinated to improve flow of continuously changing traffic.

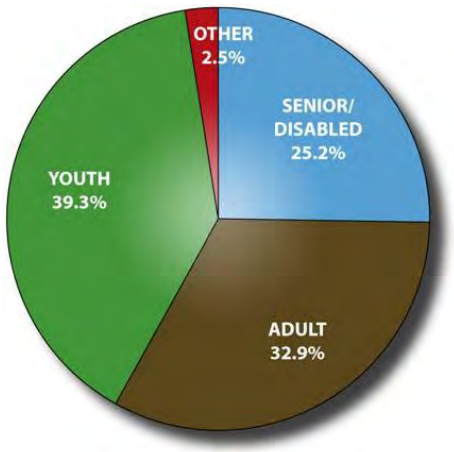
- Variable Message Boards. Construction of new variable message boards at strategic locations to advise motorists of traffic related items with link to CDOT system on I-25.

Existing Transit System

The City of Loveland Transit (COLT) provides local and paratransit service in the City of Loveland. The Flex provides a connection to Fort Collins. COLT operates three routes, the 100, 200, and 300 routes. Fixed-route service is provided Monday through Saturday and generally begins between 6:30 and 6:40 AM, with the last trip scheduled to depart between 5:30 and 6:00 PM. Service frequencies are generally 60 minutes door-to-door. Paratransit service currently operates between the hours of 6:38 AM and 6:15 PM Monday through Saturday within the Loveland city limits. COLT operates under an informal service philosophy that intends to provide as much service as possible throughout the community within existing resources in a safe and efficient manner.

COLT serves a variety of transit users including adults, seniors and persons with disabilities, youth, and Paratransit users. Ridership composition for the existing transit service by fare category is shown in Figure ES-1. As shown, the majority of riders are either youth or adults.

Percentage of Ridership by Fare Category



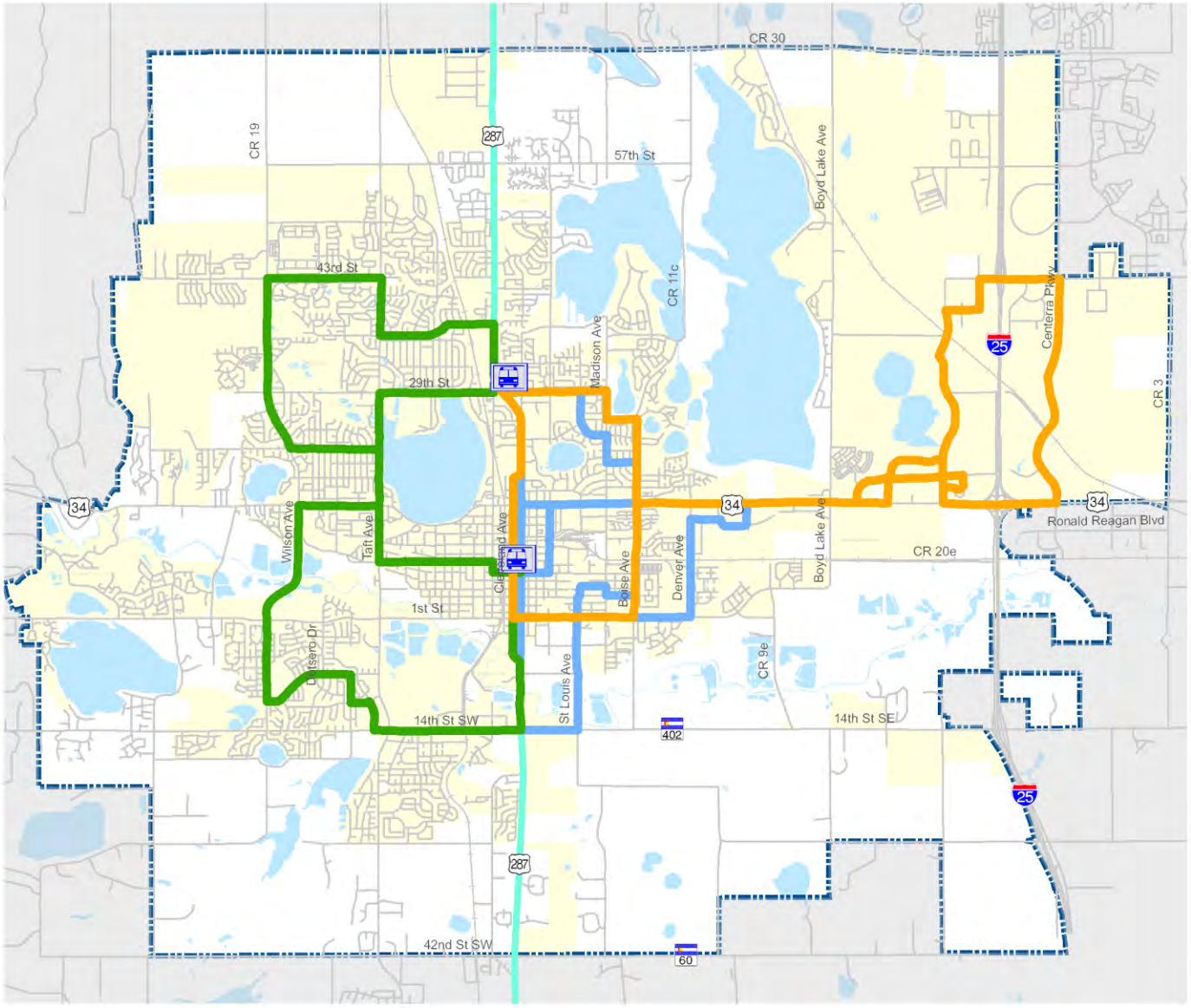
Source: Loveland-COLT

COLT owns and maintains 11 vehicles as part of its fleet and services and currently utilizes three designated transit facilities: the North Transfer Station (located at approximately US 287 and 29th Street at the Orchards Shopping Center), the South Transfer Station (located near Lincoln and 8th Street). An existing East Park and Ride facility near I-25 and US 34 is not directly served by transit, but does serve as a location for carpools to meet. An assessment of existing transit system performance was conducted in order to identify the productivity and effectiveness of the existing COLT system. System-wide, COLT reported approximately 136,000 passenger trips in 2008, the largest number to date and a 17% increase over 2007. Key productivity measures were evaluated for each route in order to identify those routes which are more efficient, those that are underperforming, and routes which are not able to accommodate high demand. This analysis contributed to the development of service concept improvements.

City of Loveland

Legend

- City Limits
- Growth Management Area
- COLT Route 300
- COLT Route 200
- COLT Route 100
- Flex Route
- Transit Center
- Railroad
- Big Thompson River
- Lakes



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EXISTING TRANSIT SYSTEM

Existing Bicycle Facilities

Bicycle mobility in Loveland is supported infrastructure facilities in new developments, the existing on-street bicycle system, and highly utilized off-street paths. The street grid of Loveland's core area lends itself well to the needs of bicyclists.

The City of Loveland's existing bicycle system is presented in the Existing Bicycle Facilities map. The bicycle system includes recreational trails, shared use paths, bike lanes, and bike routes. These facilities are defined as follows:

- *Bikeway* - A general term for any street or trail which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designed with bike lanes for the exclusive use of bicycles or are to be shared with other transportation modes.
- *Trails/Paths* - This is a shared use bicycle and pedestrian facility that is physically separated from motor vehicle traffic by open space or a barrier and is either within the road right-of-way or within an independent right-of-way. These are also referred to as a shared-use or multi-use paths or recreation trails.
- *Bicycle Lane* - This is a bikeway on a portion of a street that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicycles.
- *Bicycle Route* - A segment of a system of roadways signed to designate a bicycle connection where riding on the roadway is encouraged.
- *Striped Shoulder* – A shoulder on rural road that provides *an* edge line that separates the vehicle from the bicyclist.
- *Rural Road Shoulder* – A shoulder on a rural road that is at least four feet wide from edge line to pavement edge that provides a separation between the vehicle and bicyclist.

In review of the Existing Bicycle Facilities map, a number of observations can be made, summarized as follows:

1. The system of bicycle trails, lanes and routes provides the framework for a good bicycle system to serve the City of Loveland.
2. Many existing bicycle facilities have missing segments that impact the continuity of the system and can impede bicycle mobility and travel.
3. Some bicycle facilities begin and end erratically, often associated with new development improvements adjacent to land areas that have not been developed with an unknown timeframe for completion.
4. Many of the bicycle facilities have obstacles, such as missing bike lanes along roadways with high traffic volumes or difficult to cross streets.
5. Many of the City's bicycle facilities are in need of repair and require basic maintenance such as sweeping or removing tree overhangs.
6. Bike lanes are often depositories for snow, making them unavailable to bicyclists during winter conditions.

In reviewing the bicycle system, it is also important to consider the types of bicycle travel, the experience of the bicycle rider, and the type of facilities riders may use.

In general, there are three types of bicycle travel: commuting, adult recreation, and children. The design of bikeways differs considerably for each of these purposes. Commuter bicyclists are typically advanced riders and use their bicycles as they would a motor vehicle. They want direct access to destinations with minimal detour or delay and are typically comfortable riding beside motor vehicle traffic. However, on higher speed roadways, they need sufficient operating space in a bicycle lane or shoulder to eliminate the need for either themselves or a passing motor vehicle to shift position. Commuting bicyclists often want to ride the most direct route from their origin to their destination. Normally, extensive development along such routes limits the construction of detached bicycle/multi-purpose paths. However, prevalence of heavy traffic along such routes is only a minor hindrance to commuting bicyclists.

Recreational adult riders may also use their bicycles for transportation purposes (e.g., to get to the store or to visit friends), but prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample roadway width to allow easy overtaking by faster motor vehicles. Thus, recreational riders are comfortable riding on recreational trails, shared use paths, and neighborhood streets. They may also consider bicycle lanes or wide shoulder lanes on busier streets. Recreational riders may also use their bicycles for pleasure and exercise without a specific destination in mind. Such riders may prefer recreational trails along open spaces instead of traveling adjacent to or with motor vehicle traffic.

Children under 12, riding on their own or with their parents, may not travel as fast as their adult counterparts, but still require access to key destinations in their community, such as schools, convenience stores, and recreational facilities. Residential streets with low motor vehicle speeds linked with recreational trails or shared use paths are the preferred bicycle routes for children.

In review of the existing bicycle system from the perspective of the types of riders, the existing bicycle system primarily serves the experienced commuter and to a lesser extent, the children recreation riders.

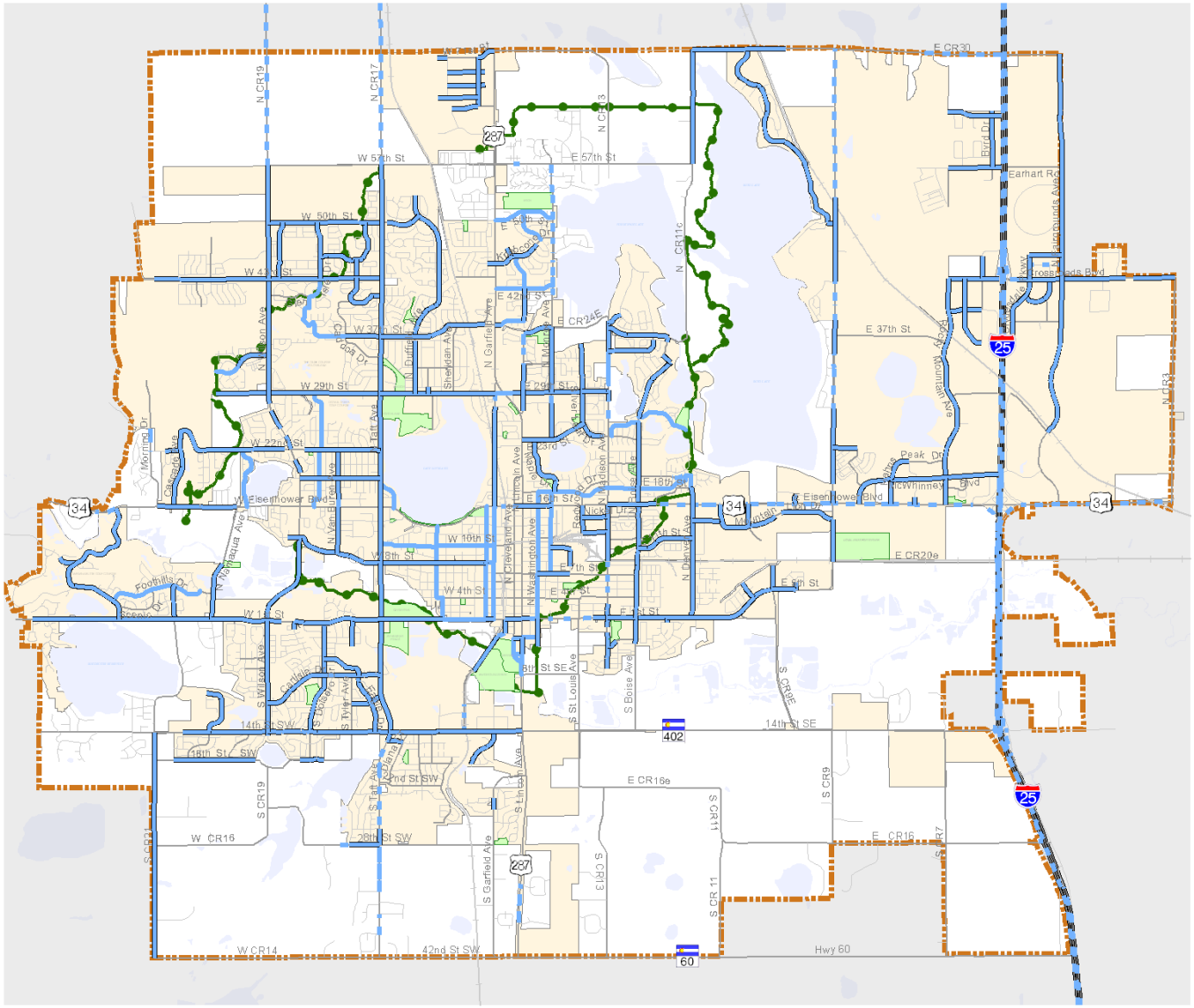
City of Loveland

Legend

- City Limits
- Growth Management Area
- Parks

Bicycle Facilities

- Existing Bike Lanes
- Existing Bike Routes
- Existing Striped Shoulders (4 Ft. in Width or Greater)
- Existing Recreation Trails



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EXISTING BICYCLE NETWORK

Existing Pedestrian Facilities

Pedestrian mobility is the most fundamental transportation mode, yet is often overlooked in transportation planning. Transit trips require pedestrian connections at both ends of the trip. Pedestrian connections to and between activity centers help minimize automobile impacts to the arterial street system.

The City of Loveland's existing pedestrian facilities map is presented below. The pedestrian system includes the sidewalks along our streets, recreational trails, and shared use paths. The pedestrian system also includes street crossings.

The ideal pedestrian system is best described as a grid system of streets with sidewalks on both sides that provide easy and direct connections between the trip origin and destination. The ideal pedestrian system should also provide for convenient and safe street crossings and include some basic amenities, such as sidewalks separated from streets and shade from trees.

In general, the City of Loveland has good sidewalk coverage. Most neighborhood streets have sidewalks along both sides, although some neighborhood streets have sidewalks along one side or no sidewalks at all. This lack of sidewalks requires a pedestrian to make additional street crossings in their pedestrian trip or walk in the street.

Some of these arterials are major facilities such as east Eisenhower, which supports major commercial centers that generate pedestrian trips. Eisenhower also has transit; in which both ends of a transit trip include a pedestrian trip.

Garfield north of 29th Street is another retail, service, and transit corridor that does not have sidewalks.

Along older commercial corridors, particularly US 287 and US 34, while there are sidewalks present, the condition and design of these sidewalks and surrounding areas does not create an environment that is conducive to people walking. Pedestrians feel exposed to the speeding traffic because the sidewalks are too narrow and they are attached to the curb.

The presence of frequent curb cuts inhibits pedestrian activity by creating more points for pedestrian and vehicle conflict and because the sidewalk is attached, the sidewalk must slope to allow for vehicle access. In many cases, there is no separation between the sidewalk and adjacent parking lots, which can lead to vehicles intruding into the pedestrian sidewalk area.

The general lack of trees and landscaping create an uncomfortable microclimate for pedestrians because there is no shade and the pavement creates an urban heat island effect. Also, the traffic passing at high speed creates a wind that affects pedestrians or splashes them when the roadway is wet.

The ability of pedestrians to safely cross US 34 and US 287 is also an issue. The controlled crossings are infrequent and the pedestrian is exposed to multiple lanes of high speed traffic. This impedes the ability of residents in the surrounding neighborhoods to access businesses along these corridors by foot or bike.

On a positive note, it should be stated that the City of Loveland's downtown area has a very strong grid system with short blocks and sidewalks on all facilities. The narrow streets in the downtown area increase the safety of travel for the pedestrian because traffic travels slower and the pedestrian has reduced exposure to the automobile when crossing a narrow street.

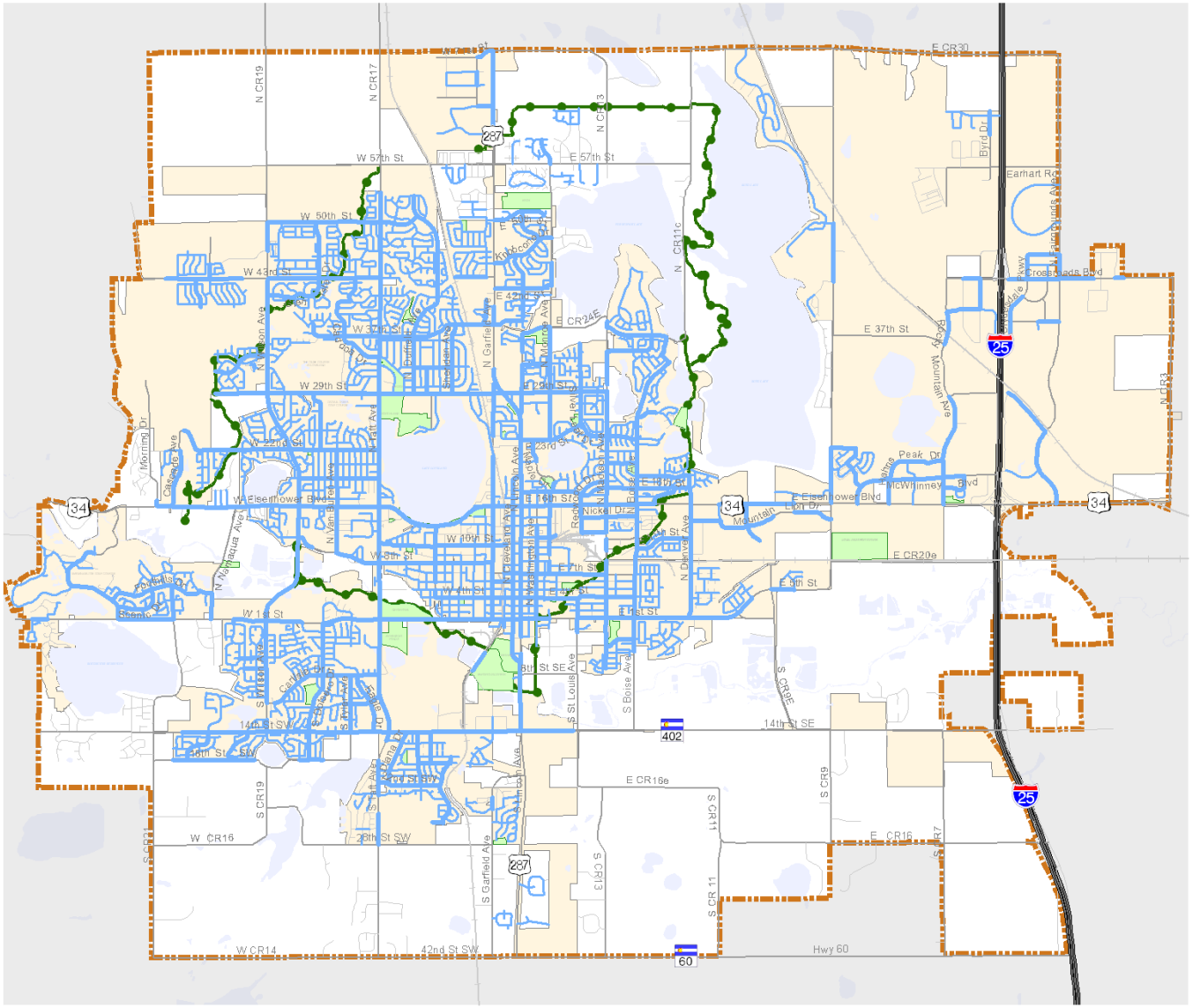
City of Loveland

Legend

- City Limits
- Growth Management Area
- Parks

Pedestrian Facilities

- Existing Sidewalks
- Existing Recreation Trails



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Existing Pedestrian System

Existing Transportation Demand Management (TDM)

Transportation Demand Management (TDM) planning is an important strategy for ensuring access to activity centers in an efficient, timely, and cost-effective manner. TDM products and services include flexible work-hour programs, parking management tactics, and incentives to use transportation alternatives such as carpools, vanpools, transit, bicycles, and walking.

Transportation Demand Management includes actions that improve the efficiency of the transportation system by altering transportation system demand rather than embarking on roadway capital expansion. It is a common misconception that TDM is strictly reliant on "getting people out of their cars" through methods like carpooling and transit. In reality, TDM is a broad spectrum of strategies that involve business owners, employees, non-profit organization, transportation and land use planning, and non-work commuters of the transportation system. TDM programs are tailored to the unique travel needs of a community or region. Like roadway expansion, transportation efficiency programs are measurable for their ability to reduce congestion, reduce commute costs, and improve air quality and livability.

The primary methods for achieving a higher efficiency of the transportation system include:

- Reducing Single Occupancy Vehicle Trips
  - Ridesharing (carpooling, vanpooling)
  - Walking and Bicycling
  - Transit
  - Telecommuting (working from home)
  - Parking Pricing and/or Parking Maximums
- Encourage Off-Peak Travel
  - Alternative Work Schedules
  - Congestion Pricing
- Shrink Trip Time or Length
  - Intelligent Transportation Systems (traffic routing, trip times, weather conditions)
  - Commuter-oriented Development (striving for a jobs / housing balance)

TDM programs have been implemented by businesses, non-profit organizations, schools, and governments for the benefit of commuters and taxpayers. For example, many employers in Northern Colorado and the City of Loveland have instituted their own telework programs, flextime policies, subscribe to the VanGo program, and encourage bicycling by providing secure storage, showers, and other amenities.

TDM is managed at the regional level through the North Front Range Metropolitan Planning Organization. The North Front Range Metropolitan Planning Organization is an association of 15 local governments, including the City of Loveland working together to improve regional transportation and air quality. The NFRMPO does long-range and short-range planning, and prioritizes which projects in those plans will receive state and federal funding. The goal of the NFRMPO is to enhance air quality and mobility among northern Colorado communities, and between the North Front Range and the Denver Metro area, by developing cooperative working relationships and financial partnerships among its member governments.