Section 5: 2035 Analysis and Projections

Introduction

To develop a successful transportation plan for the City of Loveland, a careful balance was sought between three critical, interrelated elements: land use, level of service expectations, and transportation improvements. Accordingly, a significant portion of the previous Transportation Plan planning process was spent evaluating a number of possible future scenarios with different assumptions in each of these areas. The previous findings have been brought forward into the 2035 Transportation Plan.

Land use is difficult to directly relate to traffic congestion on a particular street. However, the type, intensity, and location of growth directly affect travel patterns within Loveland and the region. Land use can be influenced by local policy documents such as the Comprehensive Land Use Plan and the Zoning Code, but it is also affected by the land use and transportation choices made by Loveland's regional neighbors.

Loveland's **level of service** expectations for the transportation system in 2035 continues to be LOS C on all City owned arterials. This desire, expressed as a policy statement, reflects the importance of mobility to Loveland's residents and the strong concern about street congestion and its negative impacts on quality of life. On major state highways through town (most significantly US 34 and US 287), the LOS goal has been reduced to LOS D operations for the following reasons:

- Regional highways that double as commercial corridors through town tend to attract higher levels of traffic. Motorists expect to encounter slower traffic with a bit more congestion in these mixed use areas as these roadways provide both mobility and a high level of local access.
- CDOT has adopted a LOS D goal for these state highways.
- Adjacent communities, such as Fort Collins to the north and Longmont to the south along US 287, have adopted LOS D as an operational goal.
- At signalized intersections, LOS D means that the average motorist is delayed between 35 and 55 seconds while passing through the intersection.
- Many Front Range communities routinely experience LOS D or E operations during peak periods on this type of corridor, and typically consider that level of congestion acceptable. This is particularly true when the impact of widening a roadway to add capacity and improve LOS has a very high price tag and a negative impact on community character.
- Allowing LOS D on these state highway corridors will minimize the need to widen roadways, and in this context is consistent with the City's new sustainability plan.
- It is important to note that reducing the LOS goal to D on state highways in Loveland should not have a negative traffic impact on the surrounding roadway network in the community. The increase in delay associated with LOS D should not be high enough to cause motorists to divert onto other roadways with a lower classification in an attempt to bypass congestion.
- This City has a policy that it does not want to see major arterials widened beyond 6 through lanes. Allowing LOS D operations is an important consideration in minimizing the need to widen major arterial roadways.

The last element, **transportation system improvements**, has been discussed in some detail throughout Section 2.0. Capacity can be expanded by constructing additional streets, by widening existing streets, and to some extent, by increasing transit service, alternative mode facilities, and TDM programs like telework and vanpooling. The relationship between capacity expansion and improved level of service is direct, but is limited by funding constraints.

The following plans for Loveland's transportation system reflect the outcome of extensive analysis and numerous discussions about the complex relationships between these three elements.

Street Plan

Alternatives Analysis

The transportation committee associated with development of the original Transportation Plan began by considering both potential land use alternatives and possible street improvement scenarios for both 20 year and buildout (beyond 2050) planning horizons to ensure the long term success of transportation system investments. In the last update, the recommendations were reevaluated and refined for the 2030 planning horizon.

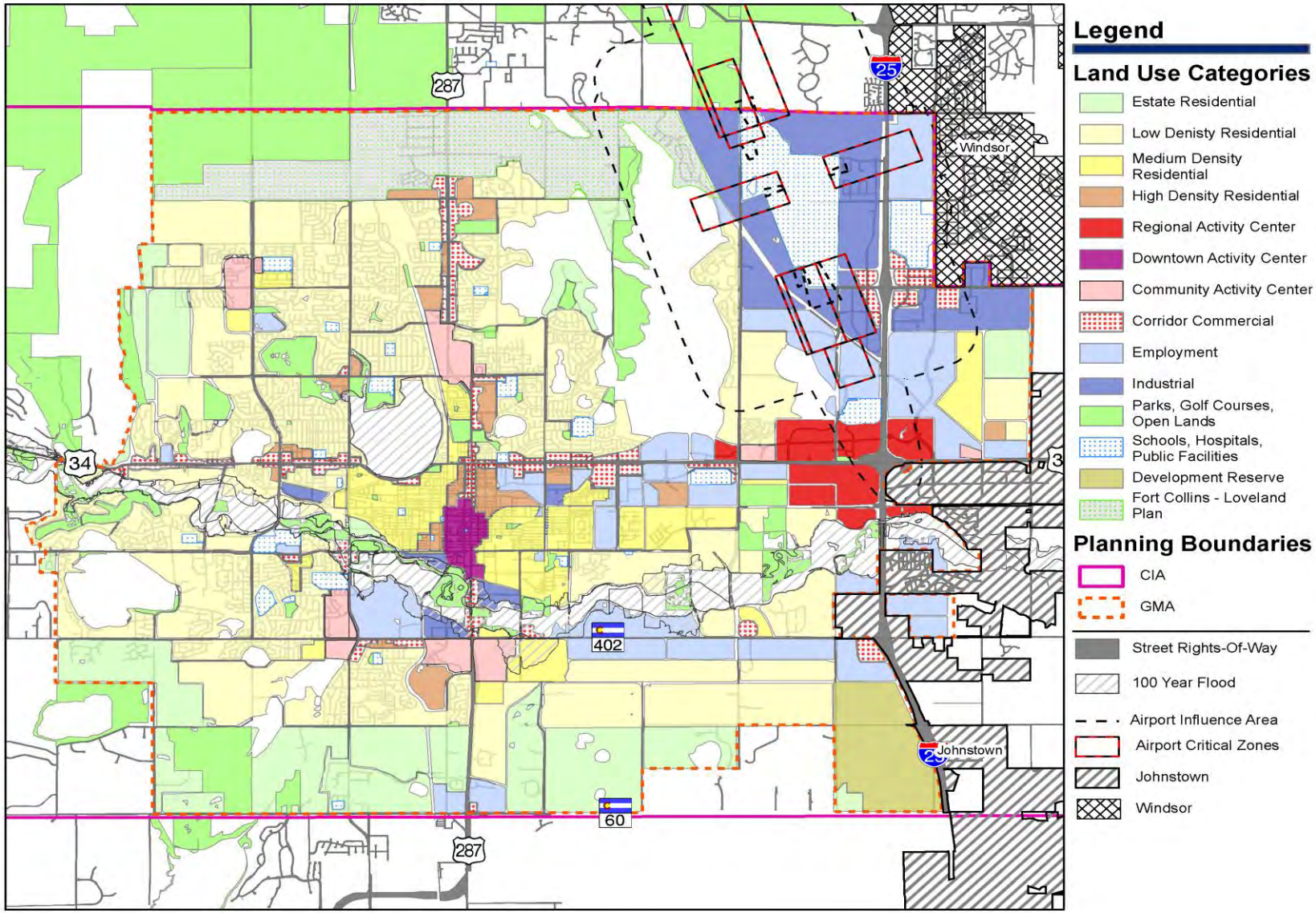
For the 2035 Transportation Plan update, staff has incorporated the most current land use projections for the year 2035, and once again has developed regional land use projections for the longer term buildout planning horizon.

To analyze these various future alternatives, a traffic model was developed and served as the primary tool to project the effects of widening existing streets, adding new roadway connections, and changing the land use assumptions. The travel model was developed by starting with the current MPO regional model and then adding detail and refinement in the Loveland area. In this way a solid foundation was constructed for the 2035 Transportation Plan. The effort put into this critical piece of the data gathering process will ensure that this foundation will be utilized going forward for future updates to the Transportation Plan.

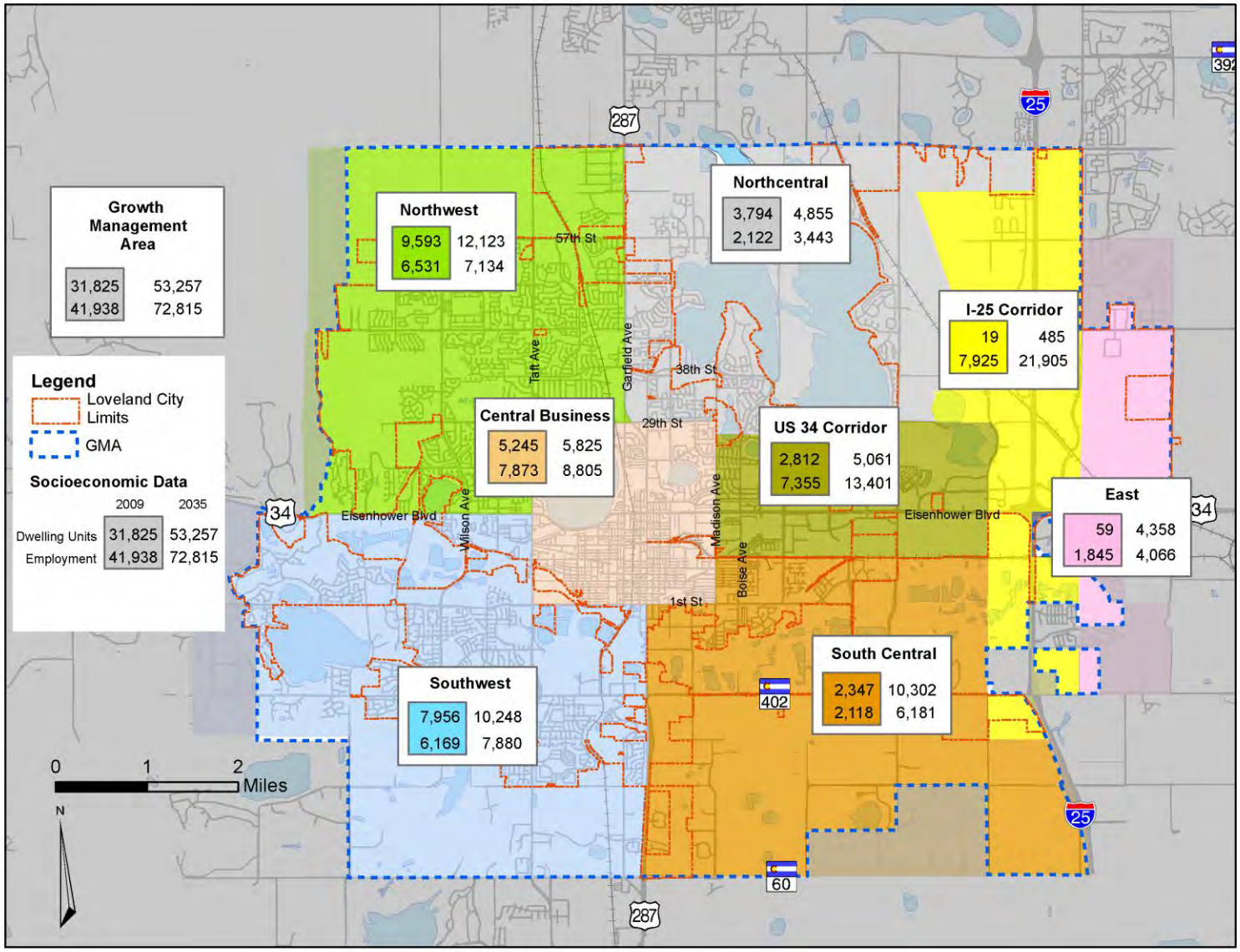
As the alternatives and projections were analyzed, it once again became clear that even with substantial widening and expansion of Loveland's street network, Loveland could not provide the level of service desired by the community on all streets. This is due, in large part, to regional land use and travel patterns that Loveland has little control over. In other words, even if the City of Loveland built an extremely expensive combination of bypasses and widening, regionally generated traffic could still cause some streets to operate below desirable LOS standards.

In close cooperation with the City's Community and Strategic Planning Division, the Land Use Plan was the basis for updating information from the 2030 Transportation Plan to be utilized in the 2035 Plan.

The Land Use Projections map represents anticipated growth over the next 23 years in the greater Loveland area. It divides Loveland into eight logical sub-areas. Within each sub-area, the projected growth in residential housing (dwelling units) and employment is shown. Although residential growth is spread out over the entire City, the vast majority of employment growth is projected to occur in the I-25 and US-34 corridors.



LAND USE PLAN



LAND USE PROJECTIONS

Street Network Alternatives

The 2030 Transportation Plan was the starting point for the future street network of the 2035 Transportation Plan. From there, modifications were made to reflect changes that occurred between 2007 and 2012, including: new developments; land use changes due to rezoning (including property being designated as conservation easements); updated road layouts due to proposed development and the impact on natural areas, other physical constraints, and in the economy in recent years. This plan update process has also revisited and tested some of the street improvements that were included in the 2030 plan, and in at least a few instances, has downsized some of the existing plan's recommendations for roadway widening.

Alternative Analysis Conclusions Identified in past Transportation Plans is still Accurate

- **Traffic conditions depend in part on Loveland's neighbors.** Loveland's traffic is determined by the growth in the entire Front Range community, not just by the size of Loveland. Loveland is part of a regional community with people traveling into, out of, and through Loveland for work, recreation, shopping, social events, and more. Accordingly, the growth of Loveland itself has less influence on traffic congestion than was initially assumed.

- **Building more roads or widening existing roads will reduce congestion.** While building bypasses to route traffic away from the City's core area was considered, widening existing roads helps reduce congestion in a cost effective manner, with fewer negative impacts. This approach puts the dollars into the most effective plan that will have the least negative impact.

- **The North Front Range cities are growing toward I-25.** The cities on the west side of I-25 are growing toward the east. With I-25 as the primary north-south corridor, it makes sense to pursue improvements on I-25 and regional transit alternatives in this corridor.

- **Bypasses are not the answer for the entire City.** Previous analysis of bypass options revealed that they are not the best way to control traffic in the northwest, northeast, or southeast parts of town. In these areas, it makes more sense to widen current streets and extend others. The best opportunity to adopt this principle is the development of parallel north-south arterials adjacent to I-25 (i.e. Boyd Lake Avenue and LCR 5 (Centerra Parkway/Fairgrounds Boulevard)) in order to provide relief for short trips from I-25.

- **Transportation alternatives reduce traffic on a limited scale.** Public transit systems and pedestrian and bicycle routes are important mobility components of Loveland's Transportation Plan. Based on other Front Range cities, aggressive TDM measures have reduced peak hour traffic by less than 10%. With this in mind, the plan is more focused on improving the street system.

2035 Street Plan

The proposed street improvements for 2035 are illustrated on the proposed 2035 Street Plan. The primary goal of the recommended improvements is to maintain the overall ease of travel as the City grows while meeting or exceeding the City's level of service C threshold (LOS D on State Highways) per City policy. In all cases, facilities should not exceed six lanes regardless of LOS.

To accomplish these goals, the plan proposes constructing new streets based on current street standards, widening existing streets and adding through lanes, adding center turn lanes, adding turn lanes at intersections, and improving signalization throughout the City.

City of Loveland

Legend

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

Roadway Designations

- Freeway 4 lanes
- Expressway 6 lanes

Arterials

Existing	Future	
		Major Arterial 6 lanes
		Major Arterial 4 lanes
		Minor Arterial 2 lanes

Collectors

Existing	Future	
		Major Collector
		Minor Collector

In undeveloped areas, collector streets may be added, deleted, or classifications changed by the Public Works Director to best meet the needs of the areas served by those streets.

Location of future routes and intersections are conceptual only. Exact locations will be determined later by separate study

N

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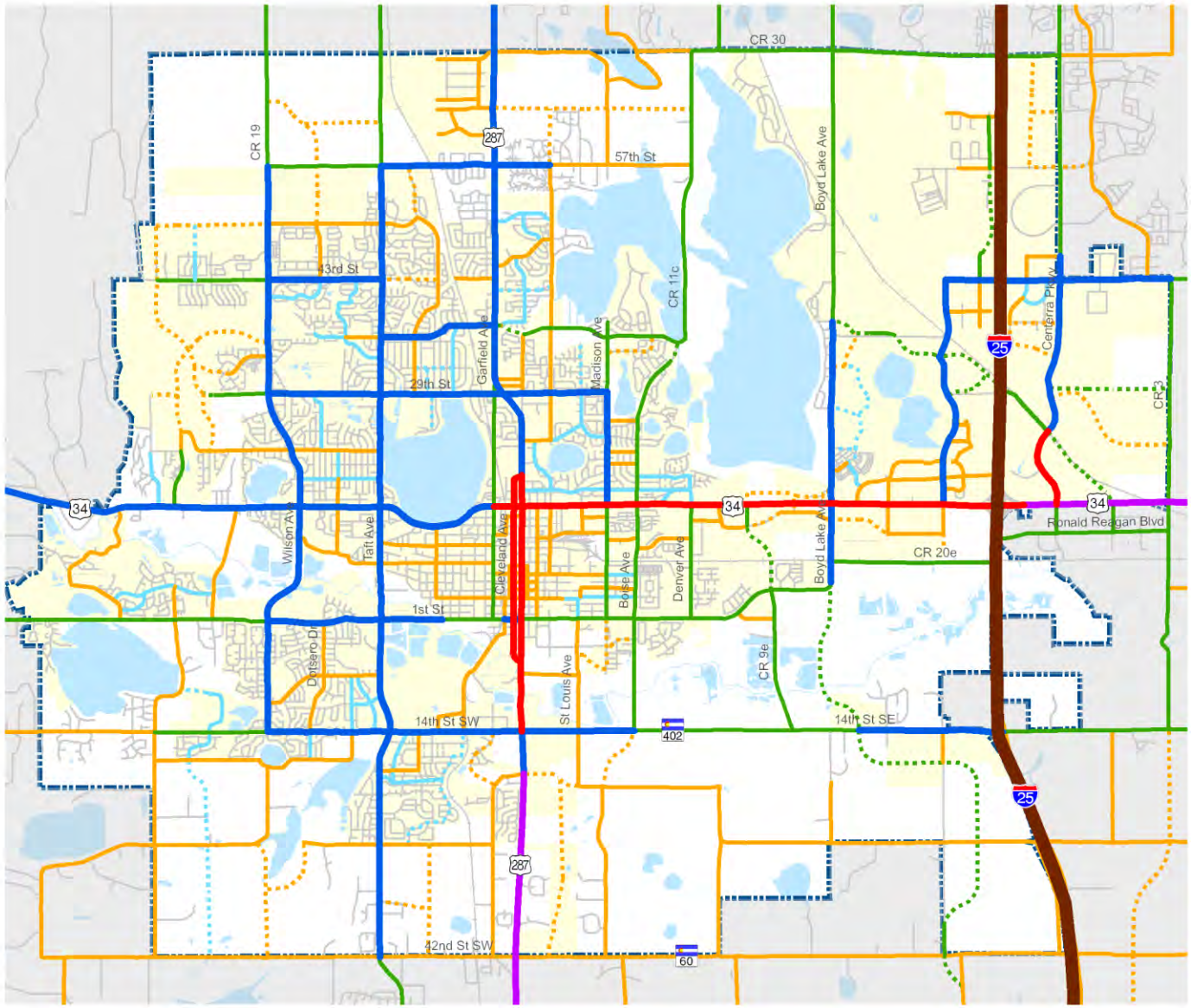
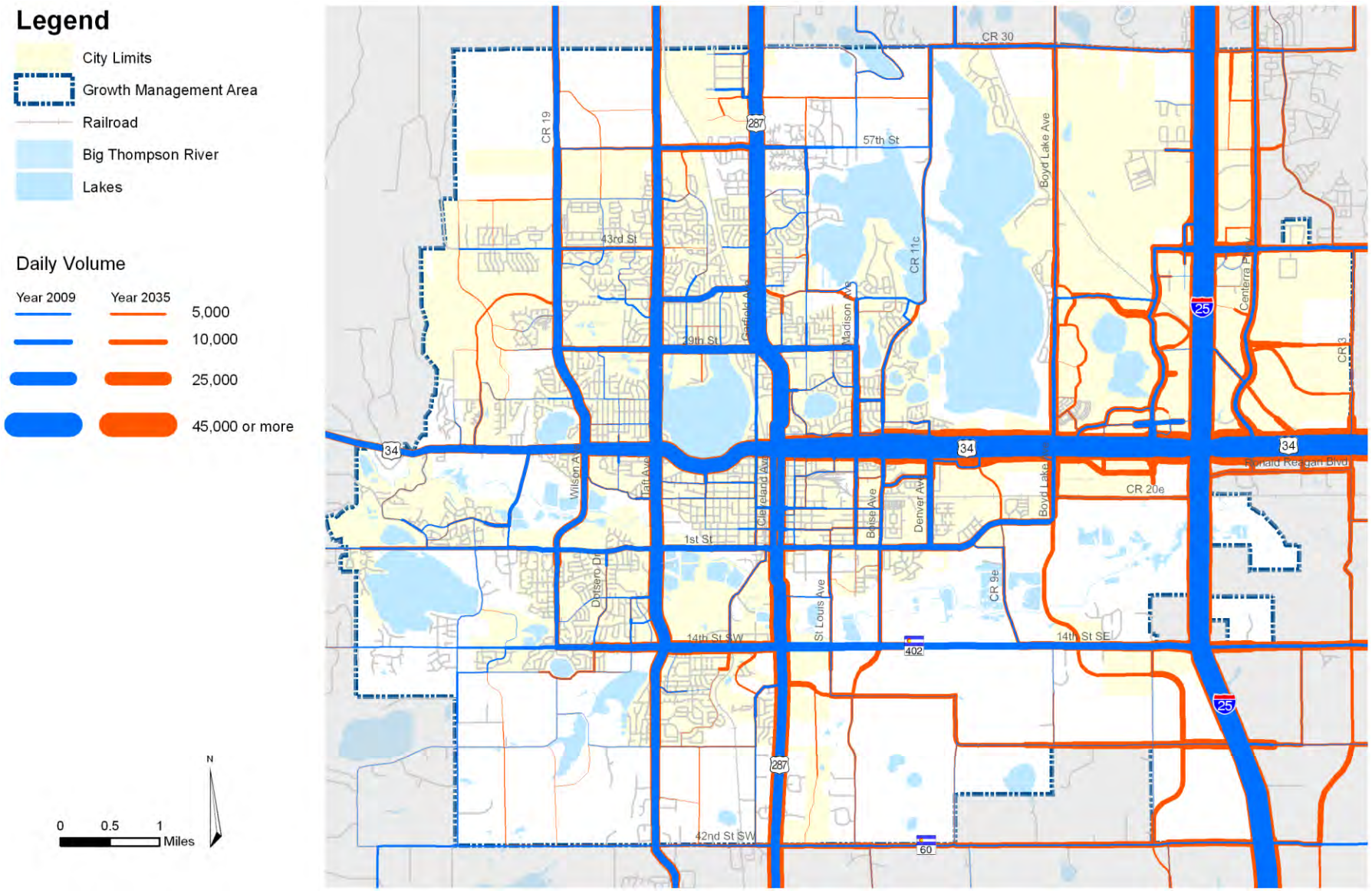


2035 Street Plan

City of Loveland



2035 Street Volumes

Forecast Year (Buildout) Street Plan

The ultimate buildout improvements map is also illustrated on the proposed Forecast Year (Buildout) Street Plan. This map is based on buildout of the proposed land use and illustrates the roadway network that will be necessary in the long term planning horizon that is beyond the year 2035. This map can be used to help the City of Loveland reserve future right-of-way in key transportation corridors.

ITS

Intelligent Transportation Systems (ITS) improves transportation safety and mobility and enhances productivity through the use of advanced communications technologies.

ITS encompass a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system's infrastructure, and in vehicles themselves, these technologies relieve congestion, improve safety and enhance productivity.

ITS is made up of many types of technology based systems. These systems include.

- Arterial Management
- Freeway Management
- Transit Management
- Incident Management
- Emergency Management
- Electronic Payment
- Traveler Information
- Information Management
- Crash Prevention and Safety
- Roadway Operations and Maintenance
- Road Weather Management
- Commercial Vehicle Operations
- Inter-modal Freight
- Collision Avoidance Systems
- Collision Notification Systems
- Driver Assistance Systems

The City of Loveland currently has "intelligent infrastructure" in several of these areas and will be working on enhancing and expanding them in the future.

Arterial Management Systems

Arterial management systems manage traffic along arterial roadways, employing traffic detectors, traffic signals, and various means of communicating information to travelers. These systems make use of information collected by traffic surveillance devices to smooth the flow of traffic along travel corridors. They also disseminate important information about travel conditions to travelers via technologies such as dynamic message signs (DMS) or highway advisory radio (HAR).

The City now has up to 93 traffic signals and 27 school flasher zones. Our signal system is nearly double the 48 signals and 14 school zones that were in operation 15 years ago. These big expansions are due to the need to accommodate a very high growth period and by taking over all CDOT signals and flashers located on state highways.

Current efforts are underway to link each of these signals to the Traffic Operations Center and provide for the addition of future signals. Additional anticipated improvements include the installation of cameras (for traffic only, not photo radar or red light cameras) at all signalized intersections to provide real time pictures of intersections. The Traffic Operations Center will include upgraded Traffic Signal System Software housed in a centralized computer that will allow for system adjustments related to traffic volumes and flow. In addition, the real time pictures will allow for further adjustments of signal timings and synchronization.

City of Loveland

Legend

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

Roadway Designations

- Freeway 6 lanes
- Expressway 6 lanes

Arterials

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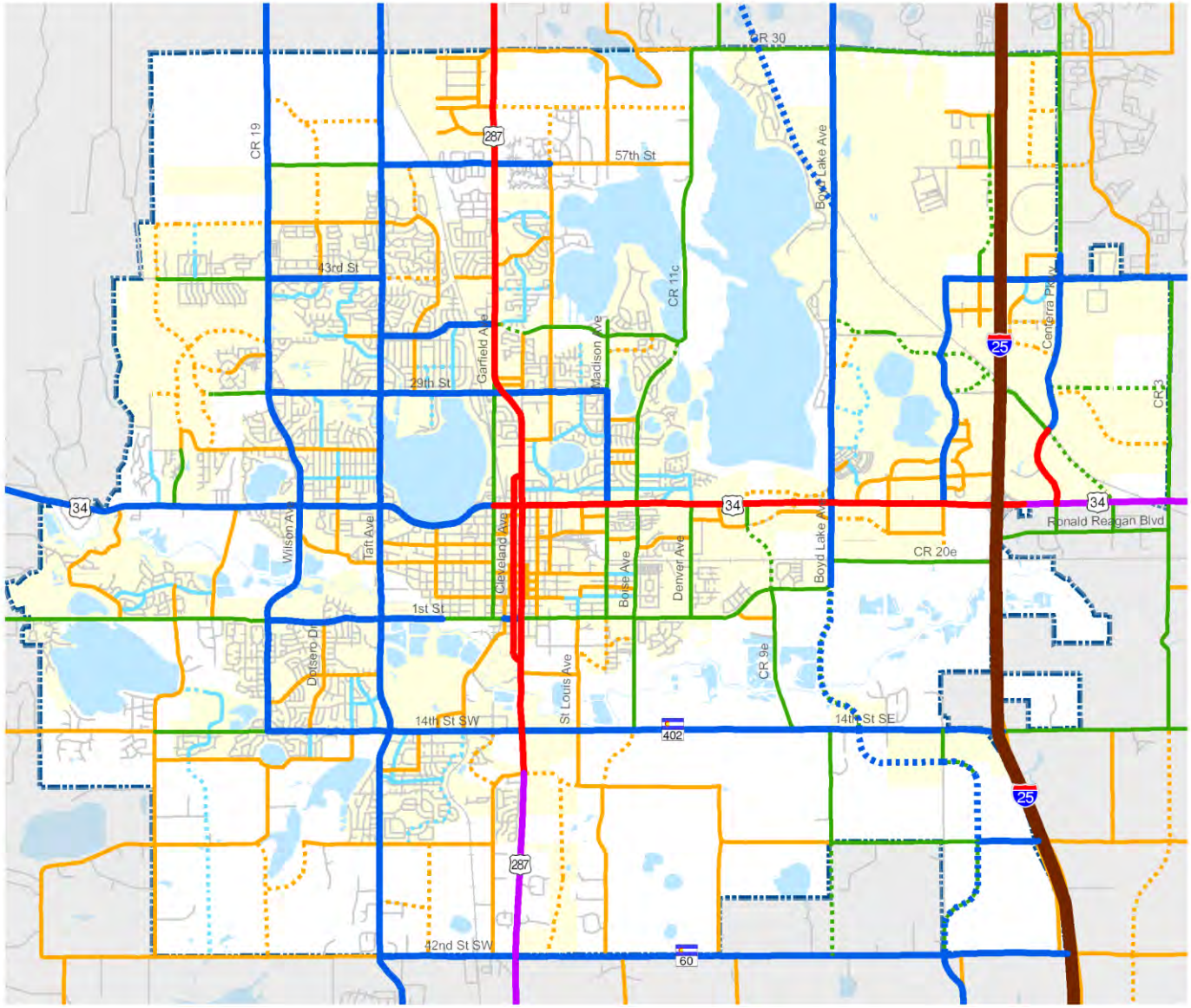


FORECAST YEAR (BUILDOUT) STREET PLAN

Proposed ITS projects for the City of Loveland include:

- Fiber Optics Communication system upgrade for communications to traffic signals
- Create modern traffic operations center (TOC)
- Update ITS Communications Plan to promote coordination of signals in key corridors.
- Update and maintain Roadway/Remote Weather Information Systems (RWIS) that have been developed to gather field information regarding road and weather conditions.
- Continue to share ITS traffic data with the public through the Loveland Road Report/Web page, local AM radio and newspaper.

Street Maintenance

Background

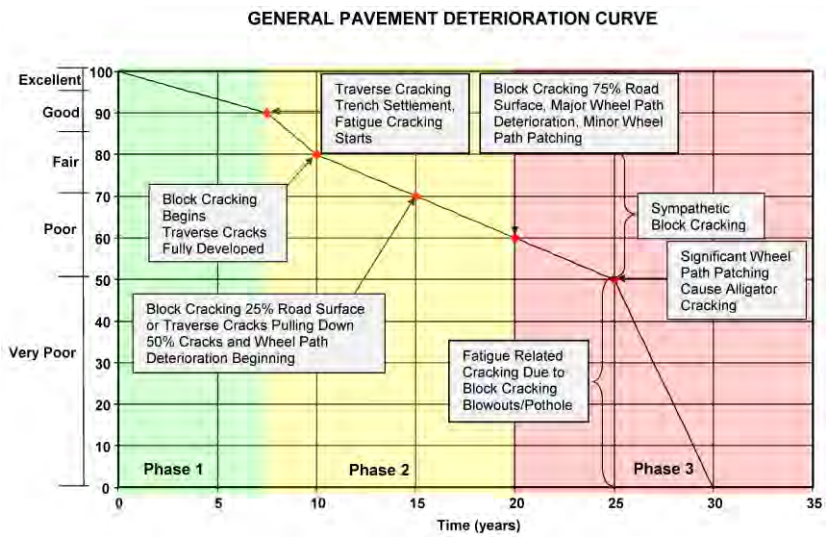
The City of Loveland currently maintains 330 miles of public streets, not including the State Highways or private roads within the City. This equates to over 7.1 million square yards of pavement that must be maintained in at an acceptable level to the citizens of Loveland. This street system carries an average of over one million vehicle miles traveled each day. This transportation network forms the basis for almost all travel within and through the City, and is essential to many aspects of daily life within our community. The replacement cost of the roads including curb, gutter and sidewalk is over $360 Million in 2012 dollars.

To more effectively manage the long term maintenance and rehabilitation of this street system, the City implemented a computer based pavement management program (PMP) in 1986. The premise upon which the PMP operates is straightforward:

- As pavement ages its deterioration usually follows a curve similar to the one on the following page.
- As the pavement deteriorates it becomes more expensive to rehabilitate.
- After a pavement deteriorates beyond a certain point the repair costs increase dramatically.

Based on these principles, it is more cost effective to apply less expensive treatments early in the pavement's life cycle rather than allowing the pavement to deteriorate to the point of reconstruction and significant cost.

During the first stage of the pavement life cycle, a road can be restored to nearly new condition with the application of relatively inexpensive crack seal and chip sealing the surface or with thin overlays. During the second and third stages the pavement has lost some structural strength, especially where water intrudes at cracks, softening the foundation soils and increasing freeze-thaw deterioration of the asphalt itself, requiring patching. If allowed to deteriorate further, the pavement has lost so much structural integrity that it usually needs to be reconstructed. The goal of the PMP is to use low cost, but socially acceptable maintenance techniques at the appropriate time to keep pavement on the "high end" of the curve to minimize long term costs. This translates into a goal of keeping 75 percent of the City's inventory in the good to excellent category of our rating system.



Current funding levels have allowed the City to meet this goal. The ability of the City to continue to meet this goal in the future depends on providing additional funding to cover additional roadway area generated by new development and increased cost of maintenance activities due to inflation of labor and materials.

Past and Current PMP Strategy

In 1996, the City Engineer developed a strategy to keep costs as low as possible and to develop a program that can be funded every year. This program emphasized preventative maintenance and asphalt overlays rather than roadway reconstruction. Placing the emphasis on treating streets in relatively good condition is somewhat counterintuitive, in that work on roadways in poor condition is postponed to allow dollars for maintenance of roads in good condition.

The City's current strategy focuses on crack and chip sealing street surfaces that are in good condition to prevent moisture penetration and asphalt degradation caused by oxidation and sunlight (UV) exposure. The asphalt membrane placed with a chip seal is analogous to painting a wood sided house to prevent the wood from rotting. The chip layer is necessary to provide for a friction surface that provides adequate skid resistance for safety. This process is then rotated on a seven to 10-year cycle with an asphalt overlay which adds structure to the roadway to replace that lost due to freeze thaw.

From 2000 through 2003 the PMP focused on the rehabilitation of major streets in Loveland. These streets carry the greatest volume of traffic and, therefore, yield the highest return on investment (benefit to cost ratio). By 2004, many of the serious maintenance problems on the major streets had been addressed so the focus shifted to resurfacing operations on local streets.

Local streets comprise nearly sixty percent of the street network and most carry less than 300 vehicles per day, with very few trucks, (mainly trash trucks). Because local streets have light traffic both in terms of volume and weight, they are prime candidates for low cost seal-coating techniques if the ride is good and the surface stable.

Newly constructed streets provide a challenge for pavement maintenance in that they are not always stable due to the changing nature of the soils below the new street. These changes include heavy construction traffic, trench settlement in newly constructed utilities, and changes in moisture due content as new home owners irrigate new lawns.

Generally the maintenance strategy for a newly constructed street consists of:

- A leveling course and overlay around year 7 to 10 in order to smooth ride issues related to trench settlement of the utilities trenches located under the road.
- Crack sealing is typically done in year 10 to 14 to prevent moisture intrusion as cracks form in the asphalt surface due to water and oxidation aging.
- Chip seal of the surface is typically done in year 12 to 14. This procedure reinforces the crack sealing efforts by placing a membrane of polymer modified asphalt across the surface of the road and covering the road with a new surface of chip.

- This cycle is then repeated as needed. Typically a chip seal on a stable road can last 10 to 12 years. Stable roads are dependent on the initial pavement design and construction quality, utility trench construction quality, presence of swelling soils, water intrusion at concrete joints and back of walk, traffic levels, utility repairs/ patching and watering practices of the adjacent parcels.

This typical 25-year pavement strategy generally preserves the road in the good category (PCI of 80 or better). Additional maintenance beyond this time line can sustain a pavement for longer periods without reconstruction. The condition of a similar road with no maintenance during this period would generally drop below a PCI of 50 which is the point where the road must be reconstructed at roughly twice the cost of routine maintenance.

The ability to utilize seal coats is a critical element to the success of a PMP that focuses on low cost sealing techniques. According to our modeling, if chip sealing were to be eliminated from the strategy pool, the City would need to budget an additional $500,000 per year in today's dollars to maintain the inventory at the current average network PCI level of 80. ***It must be clearly understood that this PMP is not a one-time project but instead a perpetual maintenance program.*** The long term savings of this program will only be realized if there is a commitment to on-going funding and use of the most appropriate treatment.

Success Areas

The following is a list of successes with the street maintenance program to date:

- Slowly reduced City's inventory of streets that have significant problems.
- Changed to overlays over using chip seals in the bulb of cul-de-sacs in an effort to reduce chip seal complaints. This combined with efforts to sweep up loose chip within a month of the initial treatment has allowed for a significant reduction in complaints.
- Successfully utilized a paving train treatment to rehabilitate older, thin asphalt pavements that have stable base layers but the asphalt is oxidized to the point of reconstruction.
- Consistently able to cover ten percent of our inventory each year which keeps us on a 10-year treatment cycle.
- Incorporated ADA ramps at most of the street intersections throughout the City.
- Successfully worked with local railway companies to share cost in the reconstruction of six at grade crossings located at 1st Street, 37th Street, 14th Street SW, Monroe Ave, 10th Street, Garfield, and Boyd Lake Avenue, with additional crossings planned for the future.

Areas for Improvement or Change

Significant challenges both for design, execution and for budgeting include:

- Concrete curb, gutter and sidewalk conditions in the old town area are in poor to very poor condition.
- Significant issue with manhole and valve box ride issues. These features have to be raised during an overlay. This issue is being addressed with better riser ring materials that seat better and money to reconstruct the areas around these features.
- Significant problems with utility trench settlement in new roads. Depressions appear in the roads where backfill material was not placed to required density. This issue requires that the depressions must be repaired prior to treatment with a chip seal. Extensive trench settlement requires an overlay to address the problem areas thus forcing the City to use a more expensive initial treatment.
- Significant issues with over watering of lawns in new subdivisions. With the advent of underground sprinkler systems, homeowners have opted to over water their lawns leading to extensive runoff. This runoff softens the road along the curb and gutter where home owners abut to the roadway. The water enters the clay soil from the back of the curb and through the many joints in the gutter. A number of roadway failures have occurred due to moisture sensitive clays and heavy construction traffic.

Summary

The Pavement Management Program currently used is a least cost approach to pavement management City-wide. The purpose of the program extends beyond just pavement, and it attempts to keep the infrastructure for all travel modes in good condition. It also incorporates safety improvements to some streets as part of the rehabilitation effort. A variety of resurfacing and rehabilitation techniques are employed, and each street receives the most cost effective maintenance strategy needed to keep the street in good condition, within the constraints of the budget. It is essential to continue to provide consistent funding at a level sufficient to reach streets early in the deterioration cycle so costs can be kept as low as possible. The high level of safe mobility that is part of our enviable quality of life in Loveland relies on the well-being of this system.

Recommendations

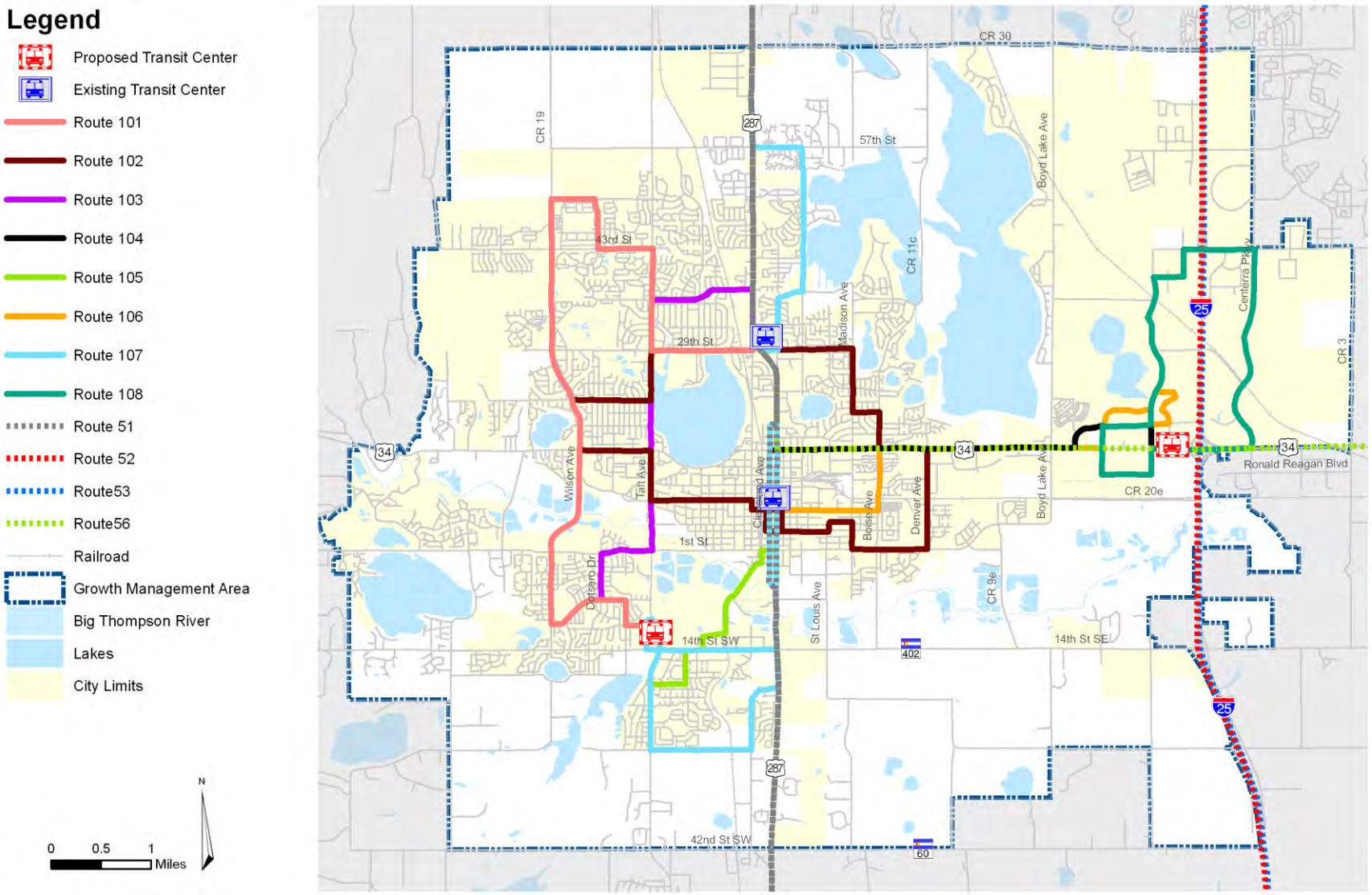
- Increase funding for street rehabilitation and maintenance to $0.58 per square yard in 2012 dollars with increases for annual inflation and increases in inventory.
- Continue chip seal program and increase crack sealing efforts.
- Increase concrete repair efforts in the older areas of town where stable roadways do not require overlays.
- Complete curb, gutter and sidewalk inventory.
- Revise specifications for utility trench construction and review existing roadway construction warranty policies.
- Develop a comprehensive bridge maintenance, repair and replacement program to assist with budget development for these activities.
- Develop a program to work with local railroads to maintain at-grade crossings.

Transit Plan

A public transit system of a size and quality commensurate with the needs of future Loveland residents and businesses is an important element of the Transportation Plan.

The City already operates a small fixed-route bus system for the general public, as well as complimentary paratransit service for persons with disabilities, and seniors as required by the Federal Transit Administration (FTA). These services provide the basis for a system that will integrate local and intercity bus routes into a seamless regional transit network that also may include a commuter rail corridor along the Front Range. The need for such a system will become increasingly great as the distribution, variety, and density of land uses expand, and as neighboring cities in the North Front Range extend to the borders of Loveland.

The primary customer base for COLT will remain "transit dependent" riders such as seniors, disabled, students, and those of limited financial means. Due to financial constraints such as limited federal funding, decreasing general fund dollars, and no Regional Transit Authority (RTA) or the like, growth in the transit system is projected to be stagnant in the near term. Loveland's transit plan reflects growing the system organically as additional funding becomes available; significant growth of the system will require substantial increased financial contributions at the local, state, and federal level. Limited improvements for potentially reducing headways on existing routes and controlling operating costs and inflationary adjustments will be considered. Periodic review and update of the COLT Transit Plan, as required by the federal government, will ensure that Loveland's transit system can adapt to the changing needs of the City.



PROPOSED TRANSIT PLAN

The City of Loveland's transit plan was a framework for implementation of future transit improvements in three phases. Phase 1 recommends substantial transit growth over existing service in Loveland. It also recommends bi-directional service and a new regional connection to Longmont. Partnering strategies would likely be considered for the implementation of regional services.

The Future Transit Map identifies service improvements recommended for Loveland. An overview of these recommendations follows.

Phase 1

Local Services

- Proposes redesigned routes to provide Loveland with bi-directional loop service instead of one-way loops

Regional Services

- Proposes a new regional route between Loveland and Longmont with weekday and Saturday service

Phase 2

Phase 2 recommends further expansion of transit service in Loveland, as well as expansion of regional connections. Partnering strategies would likely be considered for implementation of regional services. This phase provides greater route coverage, higher service frequencies, and longer span of service in Loveland. An overview of these recommendations follows.

Local Services

- Recommends facility improvements at two existing transfer stations: the North Transfer Station at Orchards Shopping Center and the South Transit Center at 8th Street/US 287
- Recommends a new shared park-and-ride and transfer facility adjacent to Centerra near I-25 and US 34
- Proposes two new routes providing enhanced connections between south Loveland and Centerra, and expansion of north/south service to the south Loveland area
- Proposes early evening service (until 8:30 PM) on weekdays and Saturdays for two routes

Regional Services

- Recommends a new regional route connecting Fort Collins, Loveland (Centerra), and Denver
- Proposes a more direct connection between central Loveland and Greeley
- Proposes early evening service (until 8:30 PM) on the route to Longmont and late evening service (until midnight) for the route replacing the FoxTrot to Fort Collins
- Proposes Saturday service for three regional routes

Phase 3

Phase 3 recommends additional transit growth in Loveland including longer service hours and limited Sunday service. An overview of these recommendations follows.

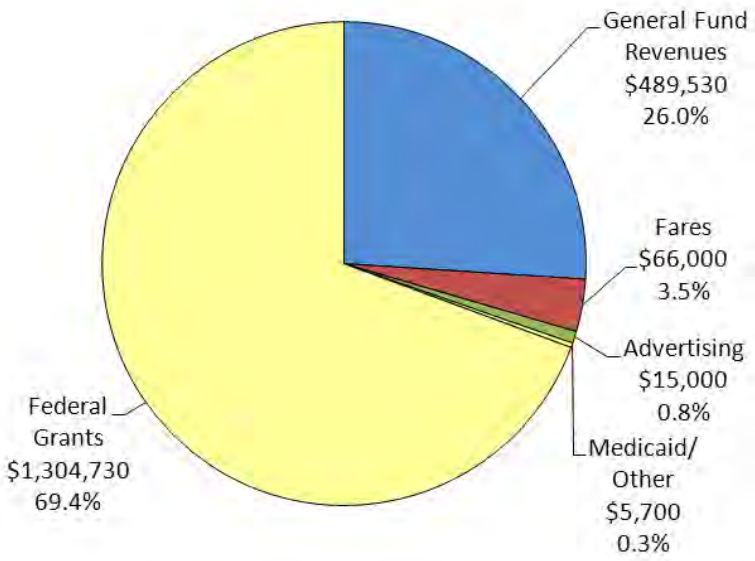
Local Services

- Proposes a new South Transfer Station at Thompson Valley Towne Centre (14th SW and Taft)
- Recommends two new routes expanding service to the west Loveland area along Wilson and Taft
- Proposes improvements to service frequency on the primary central loop route
- Proposes early evening service (until 8:30 PM) for four routes and late evening service (until midnight) for two routes on weekdays and Saturdays
- Proposes Saturday service for all eight routes
- Proposes Sunday service for four routes

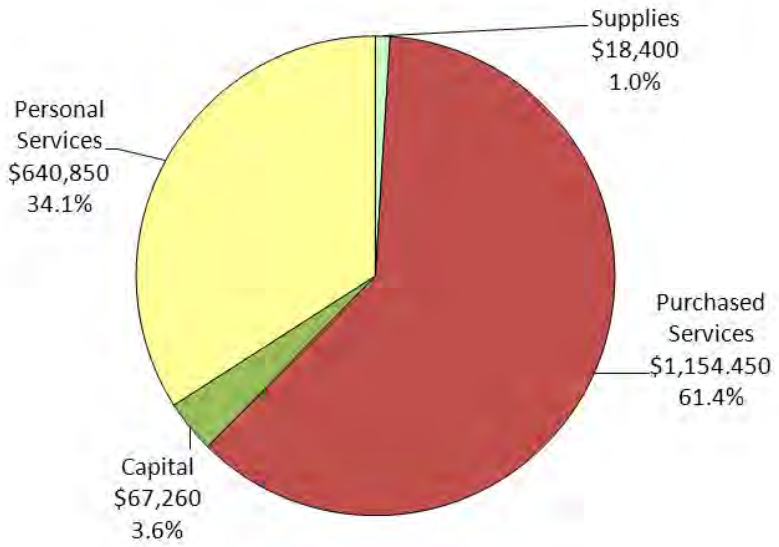
Regional Services

- Proposes a new highway route providing connections between South Fort Collins, Loveland (Centerra), Longmont, and Boulder
- Recommends reconfiguration of a regional route to provide service between Fort Collins, Loveland, Berthoud, and Longmont, with Saturday and Sunday service
- Recommends additional late evening service (until midnight) for the route between Fort Collins and Longmont (via Loveland)

Transit Revenues: $1,880,960



Transit Expenditures: $1,880,960



North Front Range Transit Vision Plan

The Cities of Loveland and Fort Collins, the Town of Berthoud, Larimer County, and the North Front Range Metropolitan Planning Organization (NFRMPO) are exploring the feasibility of a regional decision-making and funding structure for regional transit services. There are three separate transit operations within the TMA boundaries. The operations include the City of Fort Collins Transfort, the City of Loveland's COLT (City of Loveland Transit) and the Town of Berthoud, the Berthoud Area Transit Service (BATS).

The recent process to update the Transfort Strategic Operating Plan (TSOP) was a collaborative effort between Fort Collins, Loveland and the Poudre School District. As a part of the TSOP update, a Financial Advisory Committee (FAC) was organized. The eight-member FAC consisted of residents from Fort Collins and Loveland, and represented a broad range of public and private interests. The FAC was tasked with making a recommendation to the governing councils with regard to funding mechanisms to support the implementation of the TSOP.

While the committee recommended a combination of funding strategies, it also recommended a subsequent study to explore the feasibility of the formation of a regional transit provider to serve as the administration, organization, and consolidation of transit operations for Fort Collins and Loveland. In 2011, the Cities of Fort Collins and Loveland, the Town of Berthoud, Larimer County, and the North Front Range MPO agreed to pursue the feasibility study. The North Front Range Transit Vision feasibility study officially started on March 1, 2012 with final recommendations to be made in February 2013.

The purpose of the North Front Range Transit Vision project is to, within the bounds of fiscal sustainability, explore and analyze the tools available for potential consolidated regional transit services and operations, governance, and decision-making, with the aim of improving transit service, increasing ridership, and improving transit's overall cost-effectiveness for the citizens of the North Front Range.

What is a Transit Center?

Transit centers are significant components of most successful transit systems. Such facilities serve multiple functions as safe and convenient transfer points between local routes, as park-n-ride access points for regional and commuter express services, and as transportation focal points for commercial and high-density residential districts. The 2030 transit plan proposes that off-street transit centers be preserved at possibly four key transfer points:

Downtown Loveland will be an important destination for local and regional transit riders. Regional service between Fort Collins and Boulder will almost certainly exist in one form or another and will traverse downtown Loveland. Local routes will focus on the redeveloped central business district and the Civic Center complex. Under most development scenarios, the preferred location for a downtown transit center is along US-287 between 2nd and 5th Streets.

US-287/29th Street will be an increasingly important destination for transit trips, as well as a logical transfer point for bus travel between Fort Collins and points in Loveland north of downtown. The transit center at this location should provide effective pedestrian access to adjacent commercial destinations.

The I-25 interchange at US-34 will be both an important local destination and access point for transit services to other parts of the region. The City's land use plan will focus additional retail development around the Factory Outlet Stores and on the four sides of the interstate highway cloverleaf. Regional connections to Greeley, the Denver metro area, and DIA will be available at this location. The optimal transit center design will provide expedited access and egress for express buses using I-25 and local buses approaching from Loveland via Eisenhower Boulevard. Park-ride capacity should be provided adjacent to the transit center.

I-25 at the State Highway 402 interchange will be an important feeder point for south Loveland residents using regional transit in the I-25 corridor and seeking access to planned commercial and employment facilities to be developed in the vicinity of the interchange. Park-ride capacity should be provided adjacent to the transit center.

Transit Oriented Development Concept

Transit Oriented Development is the exciting, new, fast growing trend in creating vibrant, livable communities, and is an item that will be considered for the future in Loveland. Also known as Transit Oriented Design, or TOD, it is the creation of compact, walkable communities centered around high-quality transit systems (bus and/or rail). This makes it possible to live a higher quality life without complete dependence on a car for mobility and survival.

Factors Driving the Trend Toward TOD

- Rapidly growing, traffic congestion nation-wide
- Growing distaste for suburbia and strip development
- Growing desire for quality urban lifestyle
- Growing desire for more walkable lifestyles away from traffic
- Changes in family structures: more singles, empty-nesters, etc.
- New focus of Federal policy

Components of Transit-Oriented Design

- Walkable design with pedestrian as the highest priority
- Train station as prominent feature of town center
- A regional node containing a mixture of uses in close proximity including office, residential, retail, and civic uses
- High density, high-quality development within 10-minute walk circle surrounding train station
- Collector support transit systems including trolleys, streetcars, light rail, and buses, etc.
- Designed to include the easy use of bicycles, scooters, and rollerblades as daily support transportation systems
- Reduced and managed parking inside 10-minute walk circle around town center/train station

How is increased transit service planned?

To ensure that Loveland will have a transit system with appropriate service levels as it grows, *transit development thresholds* are used as a planning tool. These thresholds are used as guidelines for the level of transit service in the corridors exhibiting certain land use and demographic characteristics. As the level of development increases, the ability to provide well used transit service increases. Five levels of development are considered:

Level 0—No fixed route transit service is generally required in corridors that are in the early stages of development. This would include corridors that have a population density of under 1,000 persons per square mile, limited commercial or employment-related development, large tracts of undeveloped property, and no special generators that would justify regular bus service.

Level 1—At least 50% of the land in the corridor is developed. Residential density is in the range of 1,000 to 2,000 persons per square mile. One or more small retail clusters (over 25,000 sq. ft.), small office centers, or other employment sites (over 250 jobs) are present or planned for the near-term future.

Level 2—At least 75% of the land in the corridor is developed. Residential density is in the range of 1,500 to 2,500 persons per square mile. Multiple small retail clusters or a shopping center (over 100,000 sq. ft.), office buildings, or other employment sites (over 500 jobs) are present or planned for the near-term future.

Level 3—At least 90% of the land in the corridor is developed. Residential density is in the range of 2,000 to 3,000 persons per square mile. Multiple retail clusters or shopping centers (over 250,000 sq. ft.), office buildings, or other employment sites (over 1,000 jobs) are present. Community facilities (e.g., library, post office) are located in the corridor.

Level 4—Virtually all land in the corridor is developed. Residential density exceeds 3,000 persons per square mile. Multifamily housing clusters are located in the corridor. Multiple retail clusters or shopping centers (over 500,000 sq. ft.), office buildings, or other employment sites (over 2,500 jobs) are present. Community facilities (*e.g.,* library, post office) are located in the corridor. A continuous street and sidewalk network links adjacent neighborhoods to the corridor.

Benefits

- Higher quality of life
- Better places to live, work, and play
- Greater mobility with ease of moving around
- Increased transit ridership
- Reduced traffic congestion and driving
- Reduced car accidents and injuries
- Reduced household spending on transportation, resulting in more affordable housing
- Healthier lifestyle with more walking, and less stress
- Higher, more stable property values
- Increased foot traffic and customers for area businesses
- Greatly reduced dependence on foreign oil
- Greatly reduced pollution and environmental destruction
- Reduced incentive to sprawl, increased incentive for compact development
- Less expensive than building roads and sprawl
- Enhanced ability to maintain economic competitiveness

Source: TransitOrientedDevelopment.org, Alexandria, VA

Bicycle Plan

The bicycle is a healthy alternative to the automobile for many trips. It can also play an important role in helping the City to improve its air quality and to develop a more balanced transportation system. This element of the Transportation Plan proposes improvements to existing street and trail facilities that are presently suitable for bicycles and development of an expanded system of bicycle-friendly roads and trails for Loveland's future. The plan has been developed on the basis of the analysis of existing conditions as well as input from Loveland's Bicycle and Pedestrian Committee. The following mission statement was developed by the committee and guides this plan:

> *"To make the City of Loveland a place where walking and bicycling are safe, accessible and convenient modes of transportation and recreation. It is the objective of this plan to improve bicycle ... and intermodal safety and mobility because the increased use of these modes of travel will have significant benefits for the community's quality of life, environment and economy. Implementation of the plan will make it possible for Loveland residents of all ages, abilities, and income to have the choice to bicycle...to work, educational facilities, shopping centers and other destinations as an integrated component of the City's Transportation Master Plan."*

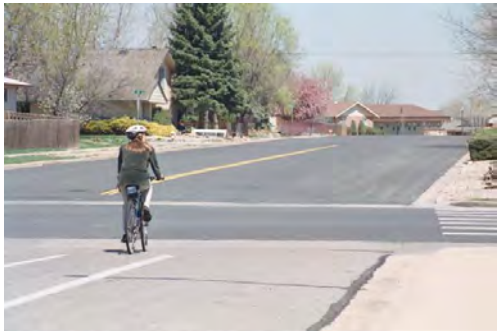
The proposed 2035 Bicycle Plan recommends significant improvements to the existing bicycle system, including new roads with added bike lanes, improvements to existing roads without bike lanes, and a comprehensive commuter trail system to compliment the City's recreational trails system and accommodate all modes of travel.

With these improvements, the future City of Loveland bike system will be of the highest quality, providing safe convenient bicycle facilities to go from virtually any place to anywhere on bicycle within the City.

The City of Loveland Bicycle Plan includes both new bicycle lanes and enhancements to existing bicycle lanes, such as bike lane widening, stripping, and signage. These improvements are also presented for high, medium, and low priority projects.

The Bicycle Plan also makes reference to facilities that are controlled and planned by other entities that are part of the comprehensive Bicycle system. Many planned improvements are from the Colorado Department of Transportation (CDOT); Larimer County; the Centerra master planned community; as well as many regional recreational and commuter trail plans.

Also included in the plan are existing and future Recreational (Multi-Use) Trails. Although these Recreational Trails are constructed and maintained by the City of Loveland's Park and Recreation Department, they were included in the map to illustrate the system



of bicycle connections that would be available with the completion of both on-street bicycle facilities and the recreational trails. The phasing of these trails is the responsibility of the Parks and Recreation Department.

Although the Recreation Trail is primarily for recreation use and this plan deals mainly with transportation use, there is a lot of synergy between the two. Some people use the Recreation Trail for commuting while others use the bicycle and pedestrian facilities along certain streets for recreational use. Coordination is critical where the Recreational Trail connects or crosses with the bike and pedestrian facilities.

Because a lot of these planned facilities by other agencies have a lot of cross-over benefits, there may be opportunities to share in the cost and also receive bonus consideration when being evaluated for grant funding.

City of Loveland

Legend

- City Limits
- Growth Management Area
- Parks

Existing Bicycle Facilities

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

High Priority Improvements

- New Bike Lanes
- Enhanced Bike Lanes

Medium Priority Improvements

- New Bike Lanes
- Enhanced Bike Lanes
- New Commuter Trails
- New Commuter Trail Crossing

Low Priority Improvements

- Enhanced Bike Lanes
- Commuter Trail

Future Planned Improvements*

- New Bike Lanes
- Enhanced Bike Lanes
- Enhanced Bike Routes
- New Shoulder Widening
- New Shared Use Trails by Others
- New Recreation Trails

* Loveland Parks & Recreation, Larimer County, CDOT, Private Development

0 0.5 1 Miles

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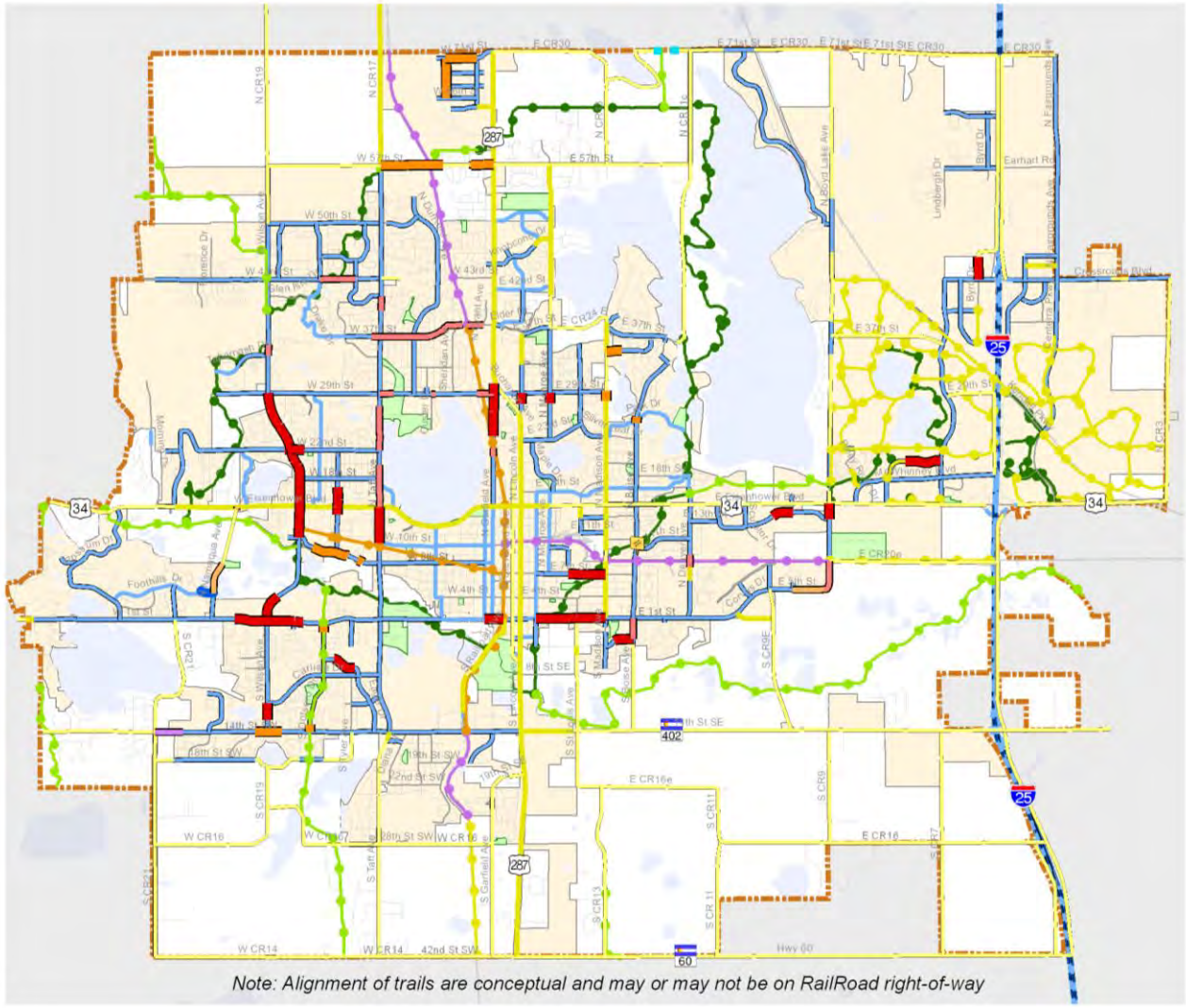
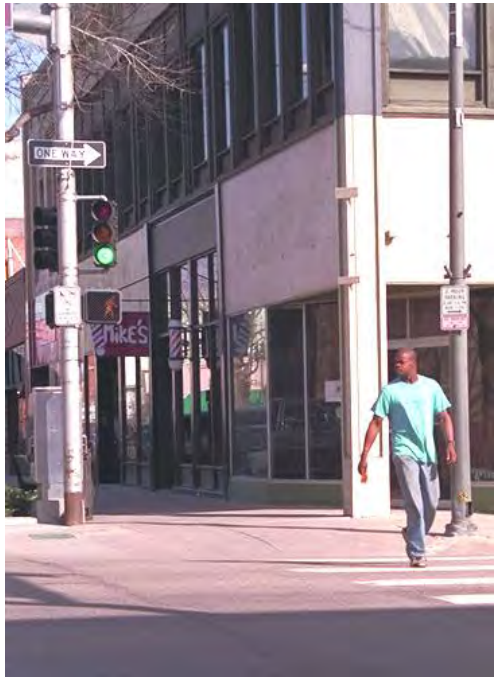


Proposed Bicycle Network

Pedestrian Plan

The Pedestrian Plan began with a long list of potential improvements based on a comprehensive field survey of missing links to address connectivity, continuity, safety problems, and provided access to schools. The pedestrian plan includes construction of new sidewalks, filling in missing segments, intersection improvements and widening of existing sidewalks.

The pedestrian projects are divided into high, medium, and low priority improvements based on the evaluation of each project based on the evaluation criteria. In addition, a fourth category was added, projects required of future developers. These projects are not priorities, but would be developed as part of future development.



What's important to a pedestrian?

Most people know a comfortable walking environment when they see one, but not many can say what exactly determines how enjoyable a pedestrian area feels. For the pedestrian plan, a number of pedestrian elements were defined, which begin to address the various factors that are important to pedestrians.

1. **Directness**—Walking distance to destinations like transit stops, schools, parks, and commercial or activity areas should be direct.

2. **Continuity**—The sidewalk/walkway system should be complete, without gaps. The pedestrian corridor should be integrated with the activities along the corridor and should provide continuous access to destinations.

3. **Street Crossings**—Safety and comfort is essential while crossing streets, intersections and mid-block crossings. Factors that affect street crossing; number of lanes to cross, signal indication, crosswalks, lighting, raised medians, visibility, curb ramps, pedestrian buttons, convenience, comfort and security.

4. **Visual Interest and Amenity**—Pedestrians enjoy visually appealing environments that are compatible with local architecture and include street lighting, fountains, and benches.

5. **Security**—Pedestrians should be visible to motorists, separated from motor vehicles and bicycles, and under adequate street lighting.

6. **Surface Condition**—Pedestrian facilities should be free from obstructions, cracks, and interruptions.

City of Loveland

Legend

- City Limits
- Growth Management Area
- Parks

Existing Pedestrian Facilities

- Existing Sidewalks
- Existing Recreation Trails

High Priority Improvements

- New Intersection Improvements
- New Sidewalks

Medium Priority Improvements

- New Intersection Improvements
- New Sidewalks
- New Commuter Trail Crossing

Low Priority Improvements

- New Intersection Improvements
- New Sidewalks

Developer Responsible Improvements

- New Sidewalks

Future Planned Improvements

- New Recreation Trails

0 0.5 1 Miles

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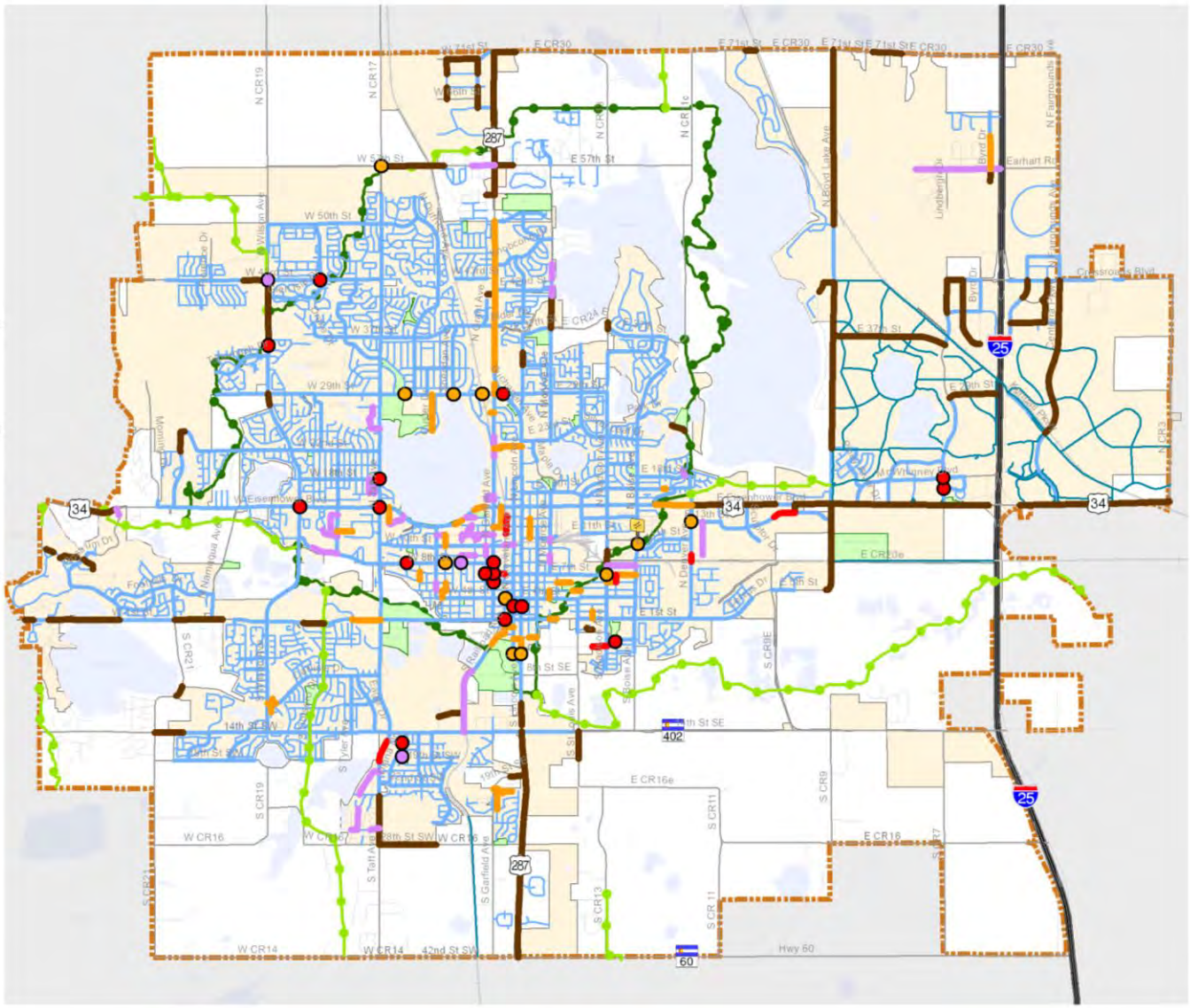
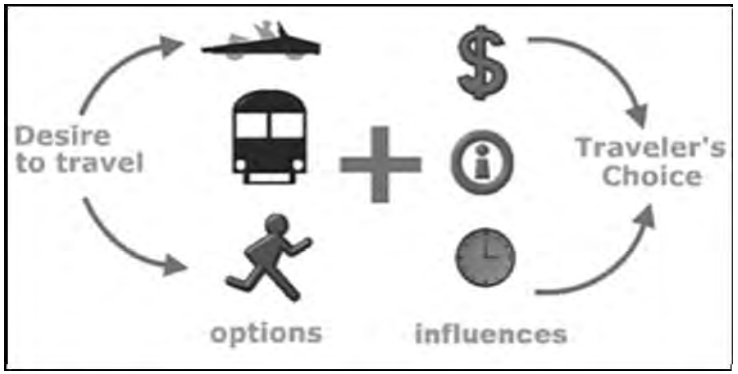


PROPOSED PEDESTRIAN PLAN

Transportation Demand Management

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.

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.



What is an SOV trip?

SOV stands for Single Occupant Vehicle and reducing the number of trips made by people driving alone (SOV trips) is a major goal of transportation demand management programs across the county. Along with Fort Collins and Greeley, the City of Loveland is working to reduce SOV trips by providing a number of transportation alternatives. Some of the strategies include employer-based programs to encourage use of transportation alternatives, regional education efforts, facility enhancements and land use policies, and transit and ridesharing subsidies.

Mode specific travel markets throughout the region are summarized below.

- **Bicycling:** Expand the bicycling infrastructure in the City of Loveland and regional connections through TDM programs and services.
- **Transit:** Targeting TDM services to increase the use of transit between within the City and to other cities within the region.
- **Carpooling:** Carpooling services targeted to areas that do not have transit services.
- **Vanpooling:** The VanGo™ program is very strong in the region for the long-distance commute market from Fort Collins, Loveland, and Greeley/Evans to points south including Denver, Boulder, and Longmont. The long distance nature of these trips makes them economical for vanpooling and the NFRMPO continues to target this market for vanpooling.
- **Telework:** The use of telework is already a part of many large employers. These employers implement telework options to telework one or more days per week which increases employee retention. A strong telework program that offers educational assistance, best practices from the region, and sample telework program policies will help facilitate telework program implementation at the local level and reduce congestion on the regional transportation network. Telework assistance should be targeted to employers throughout the region, including rural areas as well as cities.
- **Carsharing**: Carsharing is a model of car rental where people can rent cars for a short period of time, usually only a few hours. Typically carsharing works best initially in downtown areas, dense neighborhoods, and university settings.
- **Intelligent Transportation Systems (ITS): Implement** ITS infrastructure as recommended in the *CDOT Region 4 Regional ITS Architecture and use* ITS to provide travelers with better information to make decisions about when and how to travel throughout the region.