City of Loveland

LOVELAND PLANNING COMMISSION MEETING
AGENDA
Monday, November 25, 2019
500 E. 3rd Street – Council Chambers
Loveland, CO 80537
6:30 PM

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LOVELAND PLANNING COMMISSIONERS: Patrick McFall (Chair), Michael Bears, Jeff Fleischer, Milo Hovland, Susan Peterson, Deborah Tygesen and Jerico Devlin.

CALL TO ORDER

I. PLEDGE OF ALLEGIANCE

II. REPORTS:

A. Citizen Comments

This is the opportunity for citizens to address the Commission on matters not on the published agenda.

B. Current Planning Updates

1. **Monday, December 9, 2019 Meeting Agenda Preview**
   - **Grace Church – Public Hearing**
   - **Ranch Acres Rezone - Public Hearing**
   - **Preceded by Annual Commission Dinner at 5:30**
2. **Commission Interviews--completed on November 21**
3. **Planning Commissioner Workshop – Saturday, December 7--see handout**

C. City Attorney's Office Updates

D. Committee Reports

E. Commission Comments

III. APPROVAL OF MINUTES

Review and approval of the October 28, 2019 meeting minutes

IV. REGULAR AGENDA

1. Connect Loveland – Update
Presented by Dave Klockeman & Katie Guthrie, Public Works Department

Connect Loveland is the name of the City's updated Transportation, Transit and Bicycle & Pedestrian Plans. The plan is designed to integrate these three primary transportation systems, providing stronger linkages and establishing a long term vision that anticipates changes in technology and consumer needs. Connect Loveland is a component of the City's Comprehensive Plan, Create Loveland. As such, it takes a broad, encompassing and long-term look at a complex and important community topic. Ultimately, it is designed to provide information and policy guidance to City decision makers.

The Plan was initiated in early 2019 is expected to be completed in the spring of 2020. The November 25 Planning Commission presentation will summarize the planning effort to date and review primary components of the plan. The project team will highlight emerging transportation trends and identify goals for the multi-modal transportation network. As an informational item, the Commission is encouraged to ask questions and make comments on the progress to date. Once a final draft is completed, the project team will schedule a public hearing with the Commission. Ultimately, Connect Loveland will be brought forward to the City Council for adoption.

2. East Loveland Industrial 23rd – Conditional Use Public Hearing
Presented by staff planner Troy Bliss

This is a request for Conditional Use approval to allow a Heavy Logistics Center to be developed on an industrially-zoned, vacant 14-acre site located in the East Loveland Industrial Addition. The site fronts on and is accessed from Byrd Drive to the north of Crossroads Boulevard; the site is directly north of the Thunder Mountain Harley Davidson Dealership. The east side of the site is adjacent to I-25. The applicant is proposing to develop two similarly-sized industrial flex buildings totaling nearly 200,000 square feet at this location.

A heavy logistics use is defined as a use that generates more than 12 semi-trucks trips on a daily basis. As a conditional use in the I-Developing Industrial zone, a heavy logistics center requires Planning Commission approval following a public hearing. While the applicant is unsure of the tenant mix at this early juncture, approval of the Conditional Use is being pursued to provide greater use flexibility; consequently, the buildings and site are designed to accommodate heavy truck traffic, including numerous loading docks and related site facilities.

The Planning Commission has final authority on this request barring an appeal. City Development Review staff believe that the location is appropriate for a Heavy Logistics Center and has determined that all required criteria have been met. Approval is recommended with the conditions specified in the staff report.

V. ADJOURNMENT

SUPPLEMENTARY INFORMATION

Public Hearing Procedures

The purpose of a public hearing is for the Planning Commission (PC as used below) to obtain full information as to the matter under consideration. This includes giving all interested parties the opportunity to speak (provide testimony) at the hearing. The public hearing is a formal process. Below is the typical hearing sequence followed by the Planning Commission. ***Annotations have been provided for clarity.***

1. **Agenda item is recognized by the Chair**
2. **Public hearing is opened***
3. **Staff presentation**
   (May include clarifying questions to staff from Commissioners)
4. **Applicant presentation**
   (May include clarifying questions to applicant from Commissioners)
5. **Public comment**
   (All public comment should be made from the center podium upon direction from the Chair. Citizens should provide their name and mailing address in writing at the podium, and introduce themselves. The PC may ask clarifying questions of the citizens. At a public hearing, the PC does not respond to questions from citizens; questions directed to the applicant or staff should be requested through the Chair.)
6. **Applicant response**
   (The Chair typically requests that applicants respond to comments and questions raised during public comment)
7. **PC questions to staff, the applicant and possibly to citizens who presented**
   (Commissioners may use this step in the process to gain a more detailed understanding of relevant information)
8. **Close public hearing**
   (Unless specifically permitted by the Chair, further testimony is not allowed after the public hearing is closed)
9. **Motion**
   (Motions are made by a PC member with possible conditions)
10. **Motion is seconded**
    (A 2nd is required before the motion can be considered; a motion that fails to obtain a second dies)
11. **PC discussion**
    (The PC discusses the application and whether it satisfies the required criteria as found in adopted City policies and ordinances)
12. **PC Chair requests that the applicant agrees to any conditions prior to a vote**
    (When preparing to vote on a motion for approval, the PC Chair will ask if the applicant is willing to accept the proposed conditions, if any. If the applicant does not accept the conditions as proposed, the PC may deny the application)
13. **Vote**
    (*The decisions of the PC must address relevant findings of fact. These findings respond to criteria specified in adopted plans and codes, and serve to guide zoning, annexation and other land use decisions. Relevant criteria and findings are itemized in the Staff Report and referred to in the recommended motion.)*

*** Note that the Planning Commission may place time limits on presenters. All presenters, including the applicant, staff and citizens, should communicate clearly and concisely, refraining from duplicating detailed information that has been provided by others.**

CITY OF LOVELAND
PLANNING COMMISSION MINUTES
October 28, 2019

A meeting of the City of Loveland Planning Commission was held in the City Council Chambers on October 28, 2019 at 6:30 p.m. Members present: Acting Chairman Molloy; and Commissioners Fleischer, Hovland, Peterson, and Devlin. Members absent: Commissioners McFall, Bears and Tygesen. City Staff present: Robert Paulsen, Current Planning; Laurie Stirman, Assistant City Attorney; Lisa Rye, Planning Commission Secretary.

These minutes are a general summary of the meeting. A complete video recording of the meeting is available for two years on the City's web site as follows: https://loveland.viebit.com/

CITIZEN REPORTS

There were no citizen reports.

CURRENT PLANNING UPDATES

1. **Robert Paulsen, Current Planning Manager,** announced the resignation of Commissioners Molloy and Hammond. Mr. Paulsen presented a plaque of recognition to Commissioner Molloy, in honor of his hard work and dedication to the Planning Commission since August of 2006. Both Commissioners Fleischer and Hovland added that it has been a pleasure having Commissioner Molloy serve on the Planning Commission and commended him for his great work. Commissioner Hammond, who was unable to attend tonight's meeting, will receive a recognition plaque for his service with the Planning Commission since December of 2017.

2. **Robert Paulsen, Current Planning Manager,** announced that the Planning Commission photo scheduled for this evening has been canceled, as Chairman McFall and Commissioners Bears and Tygesen are absent. Mr. Paulsen shared that staff would like to start a tradition of taking an annual photo of the Commission. A photo will be taken prior to the appreciation dinner, which will be held on Monday, December 9th. The regularly scheduled Planning Commission meeting will follow.

CITY ATTORNEY'S OFFICE UPDATES

Laurie Stirman, Assistant City Attorney, noted that she will be absent from the November 25 Planning Commission meeting, and stated that Moses Garcia, City Attorney, will attend in her place.

COMMITTEE REPORTS

There were no committee reports.

APPROVAL OF THE MINUTES

Commissioner Hovland *made a motion to approve the* ***October 14, 2019*** *minutes; upon a second from* ***Commissioner Fleisher,*** *the minutes were approved unanimously.*

REGULAR AGENDA

1. Dakota Glen Outlot J Public Hearing – Rezone and Zoning Document

Project Description: This application requires a public hearing. Upon completion of the public hearing process, the Commission must forward a recommendation to the City Council for final action.

The application requests to rezone a 7.2-acre property located on the west side of South Wilson Boulevard from DR-Developing Resource to Planned Unit Development (PUD). The property is located to the north of 14th SW and is currently vacant. The requested rezoning would allow the development of a 19-lot, single-family subdivision. The homes would all be single-family detached units and would be placed on lots between 5,500 square feet and 7,000 square feet in size. The lot size range is generally smaller than the standard 7,000 square foot minimum allowed in the R1 zone district.

The Development Review Team is supporting the rezoning request based on City codes, standards and policies as specified in the Findings and as stipulated in the recommended Conditions as updated in the recent email to the Planning Commission from staff planner Troy Bliss. One of the Conditions addresses a key issue relating to the provision of a sidewalk to be installed by the developer along a portion of Carlisle Drive to the east of Wilson Avenue.

Mr. Troy Bliss provided a presentation to the Commission on the project, which included Powerpoint slides. A primary exhibit was a conceptual i illustration of the layout of the proposed property. He stated that the applicant is proposing a 19-lot, single-family detached home subdivision, with a density of 2.7 units per acre. The proposal complies with the City's comprehensive plan. PUD zoning is being requested for the purpose of flexibility in lot size, as the development proposes smaller lot sizes of 5,500 square feet to under 7,000 square feet, which is smaller that is allowed in the conventional R1 zoning district, which requires Single Family Detached Lots of 7,000 square feet and above. Mr. Bliss stated that home designs include courtyard areas, covered porches and patios, as well as living spaces above the garages, which would apply to houses with garages protruding 10 feet from the front plane of the house. Mr. Bliss also mentioned that some landscape adjustments are being proposed, in order to accommodate the driveways of each lot, the spacing of street trees, and reduction in plant material along Wilson Avenue due to the inclusion of a wall that will be backing towards the

lots. **Mr. Bliss** shared that there are wetlands along the western boundary of the subject property. All lots would be outside of the wetlands boundary in an effort to mitigate any potential impacts on the natural features of the property. **Mr. Bliss** further indicated that the City can adequately serve the development of the property, as utility services are available along Wilson Avenue next to the site, and the traffic impact study did not indicate any issues.

Mr. Bliss discussed a key issue that City staff has been working with the applicant to resolve, which relates to an offsite improvement. A map was displayed, which depicted a sidewalk gap of approximately 340 feet, located between South Wilson Avenue and the southwest corner of Walt Clark Middle School. Mr. Bliss indicated that the City has expressed concern over the safety of children since the sidewalk gap is unsafe for pedestrians. Since the new development will contribute to the need for this sidewalk, a condition is being recommended that the applicant be responsible for the off-site sidewalk installation.

Mr. Bliss explained that staff is recommending conditional approval of the rezoning and zoning document. He spoke of corrected conditions of approval, which were emailed to the Commissioners on Friday, October 25. He stated that the highlighted section of text includes the changes that were made to the previous conditions included within the staff report on page 12. He pointed out that it is important to recognize these changes; and, if the commission is inclined, to make certain the conditions are amended on record.

At this point, **Robert Paulsen** addressed the audience regarding the public hearing process, and stated that on the back of the agenda page, detailed information on the process is listed.

The applicant's representative, **Jason Messaros,** BHA Design, addressed the Commission and shared information on the proposed development, and mentioned that the developer is intending to provide one tree per lot, and landscaping along the arterial buffer yard. **Mr. Messaros** explained that the lots would be deeper and narrower than traditional single family lots. He added that the applicant is in agreement with the conditions, with the exception of the pedestrian connection sidewalk improvements. The developer is interested in entering into an agreement through negotiation to resolve the issue. He added that there are features that will make it difficult to implement a sidewalk. **Mr. Messaros** stated there is a handicap ramp that may not meet ADA requirements, as well as utilities in the area that will need to be considered. He shared that there is a huge difference in the pedestrian use patterns throughout the day; however, during pick up and drop off at school, the area is heavily used and is not a safe situation. The applicant would like to assist in improving the current conditions that exist, but recognize that this is an ongoing existing condition that the City has been aware of should have been fixed already. Finally, he added that the developer does not agree with the amount $33,000 the City has asked from the applicant to make the sidewalk installation.

Mr. Scott Bray, developer, explained that these 19 lots will be his last development. He shared that he previously did not believe that this land could be developed, as it was an emergency spillway. He worked with the City and reconfigured the nearby pond and spillway, which proved to be a good move as there was a flood in 2013, and the spillway worked perfectly. **Mr. Bray** explained that he reduced the size of the lots from 65 feet wide to 54 feet wide since the market is looking for a smaller patio home. He added that this one of the first developments

since the new Unified Development Code was adopted, which changed his plans for the development. He is attempting to adapt his existing successful house plans to the new Code. **Mr. Bray** stated he is going with a higher standard of construction and reduced maintenance for the buyer. As for the off-site sidewalk issue, he added that he questioned why the City would expect the developer to be responsible for the sidewalk installation. After observing the area during pick up of children from school, he stated he was appalled by the dangerous situation caused by the absence of the sidewalk. **Mr. Bray** shared that this was an existing condition and it would not be completed unless a developer came along. He does not agree with the number that the City provided for the cost to replace the sidewalk.

COMMISSIONER QUESTIONS:

- **Commissioner Devlin** asked Mr. Bray which developments in the area he was responsible for. **Mr. Bray** responded that he was responsible for all of them. He did not build all of the houses, but his family and partners were the developers. He stated he developed all of Wilson with the exception of 1st and Wilson, Mariana Farms and Mariana Glen, and the first portion of the mobile home park. He and his family have been developing in the area since 1960, and knows everything that is going on in the area. He is appalled that this (lack of sidewalk) has been allowed to happen. Commissioner Devlin stated that he toured the area earlier today and observed the conditions. He shared that it is definitely a hazard especially kids in middle school. Mr. Bray added that the kids are walking in the same direction of the traffic with their backs to it. Mr. Devlin asked what is the City expecting to happen with the width of the sidewalk. Mr. Bray responded that there is a driveway with a car that is commonly parked that extends into the sidewalk, and kids are forced to walk into the street. There are a number of Code violations on several properties that the City is aware of, but nothing has been done about it. He shared that there are a number of oversights from various departments and it seems the City has been aware of this situation since 2011. Mr. Bray stated that it was proposed for City funding, but nothing has been done about it. It is written in the Code that the City can require the developer to replace the sidewalk, but because there is a 4 foot sidewalk in the area already, this is what he will use to replace the gap.
- **Commissioner Devlin** asked what his intentions are for the open space to the north, and if there is a bike path through there. Mr. Bray stated he would leave it open as it flows well in that space. He added that the plat shows the existing trail and the trail will remain.

- **Commissioner Fleische**r asked about traffic circulation and if a southbound vehicle on Wilson has a dedicated left turn lane onto Carlisle. **Mr. Bray** responded that there is. **Commissioner Fleischer** asked if there is a dedicated turn lane northbound on Wilson, turning into the proposed development. **Mr. Bray** confirmed that with restriping, there would be a dedicated left turn lane. Finally, **Commissioner Fleischer** asked **Mr. Bray** how to overcome the issue of traffic coming out of the development during busy hours making a left turn to the north with no lane for merging since it is not signaled. **Justin Stone, traffic engineer**, responded that you will be able to cross both lanes and enter the center northbound lane. This will be a stop controlled intersection.

PUBLIC COMMENT:

Acting Chairman Molloy opened the hearing for public comment at 7:48 p.m.

- **Michelle Smith, resident**, stated that she is concerned about noise level because her house backs up to the proposed street, and wishes to see a barrier of some type. She added that she is concerned with traffic when turning right to go south as it is a very short area.

Acting Chairman Molloy closed the public comment portion of the hearing at 7:51 p.m.

- The applicant responded to the public comment by stating that while this is a PUD proposal, it it is not fully designed at this juncture; ultimately, a buffer is intended to go on the north side of the drive, in keeping with the existing landscaping by the ditch. **Commissioner Molloy** asked for clarification where the ditch is located. **Mr. Messaros** responded that the ditch is located North of the proposed street and the new houses would be south of the ditch.

- **Commissioner Peterson** asked if the applicant had looked into the location of the entrance to the proposed subdivison. **Mr. Bray** stated he has looked at a few entrance locations and explained that this (the one indicated) was the only feasible entrance from both City and compliance standpoints. **Mr. Stone** stated that he feels comfortable that the entrance will work. It does not technically meet the standards for a new subdivision, but it does not make it any worse than it is.

- **Commissioner Molloy** asked what the timing on the area school zone would be active. **Mr. Stone** answered that they want people to respect the school zone, so it would be active only from one half-hour before and one half-hour after school begins and ends. **Commissioner Molloy** asked if the development will increase traffic much. **Mr. Stone** stated that during peak hours there could be perhaps 12 vehicles leaving the development. In the future there could be a potential signal on Carlisle, but it still works fine and meets all standards without the signal.

- **Commissioner Molloy** asked if parking on the street could be blocked by barriers to make way for a temporary walkway for pedestrians. **Mr. Stone** stated that his department was investigating an incident involving a girl that was injured at the referenced location, and the City has been looking into how they can improve the situation. The City's policy has always been that developers must pay their way. The City is not asking him to fix the previous existing condition, but make it safe for the new residents since the 19 homes will be contributing more to the situation. The City is trying to work with the developer through a partnership, and has offered to invest approximately $130,000 in the project. The developer is asked to pay for the 4 feet of sidewalk width, and the City will pay the difference of what it would take to bring it up to the new standard of 6 feet and fix some other issues at the same time. **Mr.**

Stone added that the City is willing to work with the developer and hopefully come to an agreement before the project goes before the City Council. He added that parking along the street does actually provide a buffer between the students and the moving vehicles.

- **Commissioner Molloy** asked if language could be changed to require one tree per lot. **Mr. Messaros** responded that they are limited in space and they will come up short by 1 tree with that method. **Mr. Bray** added that the landscaping will be completed by the developer. **Mr. Bliss** added that the local street coming into the subdivision will be in keeping with the intent of the UDC and is being designed with detached walks on both sides and is an important component of the development.

Commissioner Fleischer *moved to make the findings listed in this Staff Report dated October 28, 2019, and based on those findings recommend approval to the City Council for rezoning Outlot J – Dakota Glen First Subdivision from DR-Developing Resource to PUD and approving the Zoning Document subject to the conditions provided on page 12 of this report.*

Robert Paulsen suggested that Commissioner Fleischer read the list of updated conditions that were emailed on Friday, rather than those listed on page 12. **Mr. Bliss** explained that the main difference included in the updated conditions were regarding to the sidewalk; either the option of installation, or the option of cash in lieu. Other conditions regarding construction activities cannot begin until appropriate permits are attained, and landscaping cannot conflict with the sight distance triangles. There are 3 separate conditions listed in the staff report, but the communication sent to the Commission on Friday contains 7 conditions. The items highlighted on this communication were the additional conditions. **Mr. Paulsen** added that the he does not believe the developer has an issue with the new conditions, but cash in lieu has not yet been fully negotiated. If the Commission decides to approve the motion with the updated conditions for City Council, perhaps the negotiation can be worked out prior to the City Council hearing.

Acting Chairman Molloy called for a 10 minute recess to review the updated conditions in hard copy.

Acting Chairman Molloy called the meeting to order at 8:20 p.m.

Commissioner Molloy shared that a condition is being recommended that screening at a minimum of 50% opacity be provided to ensure the car lights do not interfere with the existing houses to the north of the proposed development.

Commissioner Fleischer *moved to make the findings listed in this Staff Report dated October 28, 2019, and based on those findings recommend approval to the City Council for rezoning Outlot J – Dakota Glen First Subdivision from DR-Developing Resource to PUD and approving the Zoning Document subject to the conditions provided on page 12 of this report, but those conditions are corrected conditions of approval as revised on*

October 25th, items 1 – 7; and the additional condition just discussed to work with the City to ensure additional landscape screening on the north side of the local street to be 50% opacity if attainable. ***Commissioner Peterson*** *seconded the motion.*

Commissioner Molloy asked the applicant if they accept the conditions. **Mr. Bray** stated that he does.

The motion was unanimously adopted.

Mr. Paulsen addressed the public and stated that this is a recommendation being made to City Council. It will appear before the Council in a public hearing format. There is not a definitive date set yet for the hearing, but it will be sometime in November.

2. Boards and Commissions Handbook Revisions Review

Item Description: This is an informational item. The City Council has recently revised the referenced Handbook. Planning and Legal staff will review the revisions with the Planning Commission and will discuss other portions of the handbook that are particularly relevant to the Commission's operations. Commissioners are encouraged to make ask questions and make comments.

Mr. Paulsen distributed a handout, which contained the redlined version of Boards and Commissions Handbook reflecting recent City Council revisions. He discussed the purpose of the Planning Commission, which includes an advisory role to City Council and authority to make final land use decisions in some circumstances as specified by the Municipal Code. Mr. Paulsen explained that the Planning Commission has several unique attributes as a City board, including authority to make final decisions, requiring Commissioners to be City residents and having two meeting each month

An attendance record was distributed to each Commissioner, and attendance expectations were discussed. Commissioners are required to be in attendance 70% of the meetings per calendar year. City staff is required to monitor attendance throughout the year. If more than 3 unexcused consecutive absences occur, the Commissioner may be removed from the Commission.

Ms. Stirman, City Legal, discussed conflict of interest. She reminded the Commissioners that if any Commissioners have any financial interest in an item, they should not participate in the item being heard. She added that Commissioners are prohibited from receiving gifts in excess of fifty dollars, including gifts to family members.

Mr. Paulsen discussed the importance of having good and full discussions relative to matters that come before the Planning Commission. Comments captured within the meeting minutes are reviewed by the City Council and can be very helpful to the Council members by narrowing the focus of their discussions.

Terms of office were discussed, along with topic of meetings. **Ms. Stirman** discussed meeting requirements to ensure matters are heard in a fair manner. Meetings by phone are discouraged and a quorum is required to conduct business. She added that quorum requirements have been changed, and are now dependent on the number of seats filled on the Commission. She discussed public notice requirements and stated meetings follow Roberts Rule of Order.

Mr. Paulsen concluded staff comments by indicating appreciation for the time and efforts made by the Commission, adding that the Commission has a great influence on the development of the community.

ADJOURNMENT:

Commissioner Hovland *made a motion to adjourn the meeting; with a second made by* ***Commissioner Fleisher,*** *the motion was approved.*

The meeting was adjourned at 8:48 p.m.

Approved by:_____
Rob Molloy, Acting Planning Commission Chair

_____
Lisa Rye, Planning Commission Secretary

City of Loveland

MEMORANDUM

To: Planning Commission

From: *Connect Loveland* - David Klockeman, Project Manager, and Katie Guthrie, Deputy Project Manager (Public Works Department)

Date: November 18, 2019

Re: *Connect Loveland* Update

I. INTRODUCTION

The City of Loveland is currently developing updated Transportation, Transit and Bicycle & Pedestrian Plans. These updates will look at transportation as an entire multi-modal system centered on Loveland, including the regional impacts of jobs, shopping and medical services. The update, known as *Connect Loveland*, is focusing in on three key areas: the Street Network, Transit System, and Bicycle & Pedestrian Network. This is the first time the City has combined these separate areas into one overall effort, not only creating a stronger link between the different travel modes, but also including long-term vision for the rapidly changing needs and technologies.

Connect Loveland commenced in early 2019 and is expected to be completed in Spring 2020. This effort falls under the umbrella of the City's Comprehensive Plan (*Create Loveland*), and requires a formal process by the Planning Commission. Tonight's Discussion Item is intended to give the Planning Commission an update on the overall process and status, and seek input for going forward into the development of the final document.

II. BACKGROUND

The City of Loveland has previously completed plans related to different modes of transportation with links to each other, but primarily as standalone documents. The 2035 Transportation Plan (2012), Bicycle & Pedestrian Plan (2012) and the Transit Plan Update (2009) have been in place for over 7 years. Since those plans were completed, a number of major projects have been completed, other plans and policies have been created and adopted, and new trends in the community have occurred, including:

- Large annual increases in home prices and decreasing housing affordability.
- Ongoing shifts in community development patterns.
- Interest in mobility options.
- Increasing concerns about traffic congestion, particularly along the main arterials, and the limited options for additional roadways due to geographic constraints.

As with most long range planning efforts, the revenue ends up increasing in the later years of the planning horizon and many of the projects and that is when many of the projects are constructed. Loveland's approach to funding projects is "pay as you go", which has resulted in the construction

of much needed projects, but has created the unintended consequence of internal competition for funding, and a reduced ability to move broad-based implementation plans forward.

FOCUS OF EFFORT

In addition to traditional topics covered in the aforementioned plans, additional emerging issues and opportunities have been identified that will help inform the plan updates:

- **Growth & Community Buildout** Evaluation of the community's Growth Management Area (GMA), planning for the final remaining vacant lands within the GMA, and preparing for the continued shift in development patterns towards infill development and implications for compatibility and existing infrastructure.
- **Mobility** Developing a framework for community mobility through safe, accessible multi-modal options, while addressing congestion and creating a balanced transportation system.
- **Regionalism** Loveland's role and collaboration in a fast-growing region, especially in relation to transportation and transit, I-25 congestion and expansion, jobs-housing variables, commuter shed, etc.
- **Technology & Connectivity** Identifying and planning for emerging technologies or potential social changes, such as autonomous vehicles, smart grids, increasing automation, and envisioning how technology can enable better connectivity and interaction with local government and support various community priorities.
- **Livability** Enhancing community livability, including improving health and safety, infrastructure upgrades, as well as aging and car-free populations.
- **Innovation** Ensuring the community is not complacent but able to consider and nimbly respond to potential new ideas, strategies, and solutions to our challenges and opportunities.
- **Public Engagement** Designing, coordinating, and implementing an innovative and inclusive public outreach and engagement strategy will be crucial. The Public Works Department's Outreach and Education lead and the City's Public Information Office will be key partners in all public engagement efforts.
- **Partnerships** Cultivating new and existing partnerships, locally and regionally, for better communication, efficiencies, and support.
- **Strategic Implementation** Development of specific criteria of implementation across all areas of the City's multi-modal, well-balanced transportation system -- including short-term, mid-term and long-term needs with phasing and funding – while addressing gaps and eliminating overlaps.

ADMINISTRATION

Connect Loveland is a cooperative effort that will be managed between the City's Public Works Department, Transportation Engineering Division, Traffic Division and Transit (COLT) Division. The selected consultant team will confer/meet with the project members on a regular basis to review progress, present deliverables and findings, and solicit direction.

The City has hired a consultant, Fehr & Peers, to help develop this overall plan. Fehr & Peers is a Transportation Planning
In addition, the project will include internal and external stakeholder groups.

Internal Stakeholders (Focus Group):

- City of Loveland
- Development Services

- Engineering (Transportation Development Review, Capital Projects, Traffic)
- Utilities (Stormwater, Water/Wastewater, Power, etc.)
- Parks Planning & Development
- Police Services
- City Manager's Office, including Public Information Office
- Boards and Commissions
  - Transportation Advisory Board (TAB) – Primary – Monthly Updates
    - "Connectors" – Board Liaisons from other key Boards and Commissions – Attend TAB every other month for updates

External Stakeholders (*Connect Loveland* Stakeholder Committee "*CLSC*"):

- North Front Range Metropolitan Planning Organization (NFRMPO)
- Larimer County
  - Engineering
  - Planning
  - Health Department
- Downtown Development Authority
- Regional Partners / Municipalities / Transit Agencies
- Colorado Department of Transportation (CDOT)
- Outside Utility Service Districts
- Thompson School District (TSD)
- Loveland Fire and Rescue Authority
- Business Representatives

KEY AREAS

Street Network:

The current street network in Loveland has over 330 miles of arterial, collector and local streets. The historic core is roughly bounded by First 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.

Areas of growth have both suburban and rural characteristics, reflecting the development patterns of the 1970's 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 man-made 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.

Transit System:

The City of Loveland Transit (COLT) provides local and paratransit service in the City of Loveland. COLT operates five fixed routes, including the FLEX route, which provides a connection north, to Fort Collins and south, to Longmont and Boulder. 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.

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.

Bicycle & Pedestrian Network:

Bicycle Plan: The bicycle is an 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 Connecting Loveland identifies 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 current plan was developed based on the analysis of existing conditions, as well as input from Loveland's Bicycle and Pedestrian Committee and 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.

Pedestrian Plan: Similar to the Bicycle Plan, the Pedestrian Plan identifies pedestrian projects that provide connectivity, continuity, addresses safety problems, and also identifies access to schools. The current plan shows 153 pedestrian improvements that included construction of new sidewalks, filling in missing segments, intersection improvements and widening of existing sidewalks.

PROCESS

Task 1:	Project Kickoff and Work Plan Finalization
Task 2:	Loveland 2018 (Existing Conditions), Policy and Plan Review, Coordination with Travel Behavior, Community Values Survey – Existing Conditions Report Completed (Attached)
Task 3:	Future Loveland – Report Completed (Attached)
Task 4:	Goals, Objectives and Vision Statements – Report Completed (Attached)
Task 5:	**Alternatives Development and Testing - CURRENT**
Task 6:	Draft Plan Development
Task 7:	Final Plan
Task 8:	Adoption
Outreach	Included in All Tasks

III. PROCESS HIGHLIGHTS / CURRENT STATUS

Existing Conditions – Complete (Report Attached):

Included information on Connect Loveland, a multifaceted effort to update the City's street network, transit system, and bicycle and pedestrian facilities, must be underpinned by a thorough understanding of the current transportation network and how it serves both Loveland and connects to the surrounding region. This summary, as well as Connect Loveland, addresses all modes operating within the City—vehicles, bicyclists, pedestrians, and transit. This existing conditions summary also details all aspects of the transportation network, including recent shifts

in traffic volumes, safety concerns, the existing bicycle and pedestrian network, and transit service as well as demographic indicators, land use trends, and economic data.

Summary:
- Highlights where Loveland's transportation system is today by describing the existing multimodal networks
- Identifies opportunities for Loveland to offer improved mobility and access for residents and visitors
- Reviews recent City and regional plans that Connect Loveland will update
- Builds off the established policies, goals, objectives, and public input from recent plans
- Analyzes data of the existing state and historical trends of the transportation system including demographics, employment, land use, bicycle and pedestrian facilities, crashes, transit services, and vehicle performance
- Informs key gaps or inefficiencies

Key Challenges include: the dependence on Single Occupancy Vehicles (SOV's) for trips to work as currently 81% Drive Alone, 8.5% Carpool, 0.5% use Transit, 1.5% Walk, 1% Bike, and 7.5% Other (work from home or tele-commute); the Demographics are changing with population growth, the desire for aging in place, and the changing housing market; Travel Patterns are resulting in the demand for more choices overall specifically related to provide alternatives to the current patterns and the increase in commuters; and taking into account the constraints created by the natural boundaries, including lakes and rivers.

Future Loveland – Complete (Report Attached):

Connect Loveland provides guidance for meeting the future travel needs of residents and visitors. *Connect Loveland* will address a variety of factors, including:

- Ensuring the transportation system supports forecasted population and employment growth.
- Enhancing the biking, walking, and transit experience.
- Reducing the number of miles driven by each resident (this concept is referred to throughout as VMT or Vehicle Miles Traveled).
- Prioritizing transportation investments.
- Ensuring transportation in Loveland is equitable by providing comfortable, safe, and accessible options for all users.

A variety of items have been identified related to anticipated changes going forward:
- Both housing in employment will increase in the future, with jobs growing faster than available housing. This will result in more commuter traffic.
- Housing affordability, preference and generational trends will have a great impact on all modes of travel related to the different needs and desires.
- The anticipated significant growth in N0n-Residential Development (Office, Retail and Industrial) will have a large impact on travel.
- While it is anticipated that individuals will travel less, overall travel will increase due to population and employment growth.
- Demand for biking and walking options and infrastructure will increase.
- Emerging trends will have a yet to be fully determined impact on the transportation network. This area includes Shared Mobility, Curbside Management, Electric Vehicles, Autonomous and Connect Vehicles, Mobility as a service, and Home Delivery.

Vision, Goals, and Objectives - Complete (Report Attached):

As part of the *Connect Loveland* process, a draft vision along with a set of proposed goals and objectives was developed. Goals and corresponding objectives have been divided into topic areas that will ultimately represent different sections of *Connect Loveland*.

Many elements were adopted from previous planning efforts in Loveland and some pieces have been drafted specifically for *Connect Loveland*, based on more recent changes in the rapidly evolving transportation landscape and Loveland's growing population.

The framework uses the following definitions:

Vision: Thinking about the future with wisdom and/or imagination. Something to be pursued, **the end result.**

Goals: The desired end result of any number of efforts. A goal **defines the direction and destination,** changes the direction of the City toward the end result.

Objectives: All about the tactics. Objectives are **action items** to get from where we are to where we want to be. A goal defines the direction and destination, but the road to get there is accomplished by a series of objectives.

Connect Loveland Vision: ***Loveland's multimodal transportation network will be safe, accessible, regionally connected, and user-friendly, providing reliable and convenient access to everyday destinations for all ages and abilities.***

In order to fully address the broad range of items for all travel modes, a list of 10 Topic Areas were was developed. The Topic Areas include: Multimodal Connectivity; Aligning Transportation and Land Use and Development; Trails/Recreation; Environment; Health and Safety; Policies and Programs; Implementation/Funding; Equitable Access; Regional Coordination; and Innovation.

Alternatives Development and Testing - In Process:

Taking into account all of the items identified in the *Connect Loveland* work to date, three (3) Alternative Scenarios were identified that illustrate different transportation patterns, respective priorities and levels of investment. They consist of:

- Scenario 1 – Base Case
  - Maintain current funding levels for Transportation Capital based on recommendations of 2035 Transportation Plan, including maintenance
  - Continue to incrementally increase Transit service, including frequency and connections to regional transit (FLEX and Bustang)
  - Develop additional safety and comfort criteria for bicycles and pedestrians
  - No Land Use Changes

- Scenario 2 – Increased Funding in All Modes / Some Land Use Changes
  - Increase current funding levels for Transportation Capital above existing levels; Maintain existing level of maintenance funding

- Increase Transit service frequency and coverage; contribute to regional transit expansion
- Increase funding for bicycles and pedestrians to prioritize improvements on existing gaps, specifically connections to the Transit system and other facilities
- Land Use – Increase Mixed Use Development along major corridors by 20%

- Scenario 3 – Increased Funding for Active Modes / Additional Land Use Changes
  - Increase current funding levels for Active Modes (Transit, Bicycles and Pedestrians) and maintain existing funding for vehicle and maintenance
  - Increase Transit service frequency and coverage, including addition of high frequency corridors ; contribute to regional transit expansion
  - Increase funding for bicycles and pedestrians to complete all improvements on existing gaps, specifically connections to the Transit system and other facilities
  - Land Use – Add high density development near Transit hubs; Increase Mixed Use Development along major corridors by 20%; Increase Mixed by 40% along high frequency corridors

Each of these scenarios is being reviewed to determine the impact on the overall transportation network. The recommended approach included in the final *Connect Loveland* document will be a combination of items from each scenario that best addresses the overall needs.

IV. NEXT STEPS

- Complete Alternatives Development and Testing – November / December 2019
- Prepare Draft Document – January 2020
- Prepare Final Document – February / March 2020
- Adoption – April 2020

Future Loveland

Introduction

Connect Loveland provides guidance for meeting the future travel needs of residents and visitors. *Connect Loveland* has its origins in existing city and regional plans but expands on those efforts to consider new trends, technologies, and travel. *Connect Loveland* will address a variety of factors, including:

- Ensuring the transportation system supports forecasted population and employment growth.
- Enhancing the biking, walking, and transit experience.
- Reducing the number of miles driven by each resident (this concept is referred to throughout as VMT or Vehicle Miles Traveled).
- Prioritizing transportation investments.
- Ensuring transportation in Loveland is equitable by providing comfortable, safe, and accessible options for all users.

The existing transportation planning efforts Loveland has undertaken and the range of emerging trends that will influence the transportation network will help shape *Connect Loveland* into an actionable plan for Loveland's transportation future. *Connect Loveland* will validate whether existing City policies, programs, and planned projects still have value for the City and identify new projects to adapt to a changing transportation environment.

This report outlines expected changes for Loveland by 2040 in the areas of land use, demographics, employment, and travel trends. The report summarizes the currently planned projects and describes how they do or do not align with land use, demographic, economic, and travel trends. Additionally, the report describes new trends and technologies that will influence the ways Loveland residents and visitors travel.

1. Loveland 2040 Demographics

The North Front Range Metropolitan Planning Organization (NFRMPO) produces demographic forecasts for the region. These forecasts are developed for transportation planning purposes to help estimate impacts of forecast growth on roadway capacity and needs. The NFRMPO's 2012 forecasts were used as a base forecast for the City and total growth control totals for the City and its Growth Management Area. Adjustments to the traffic analysis zone (TAZ) level estimates were made for the transportation plan to reflect development trends and conditions that have changed since the forecasts were developed. As well, adjustments to TAZ level estimates were utilized to help test scenarios for potential transportation options analyzed during the plan process.

Population and Households

The population of the City of Loveland is expected to grow over the next two decades. The City's population of approximately 75,000 residents is forecast to grow to 108,000 residents by 2040 (**Figure 1**). It is estimate that the City's growth management will grow to 49,400 total households in 2040. The forecast growth in households is approximately 16,000 new households by 2040, which is an average of 700 households per year. The forecasted rate of household growth for the GMA is slight decrease in the annual amount of growth for the community, as the City of Loveland grew by an average of 800 households per year from 2000 to 2017.

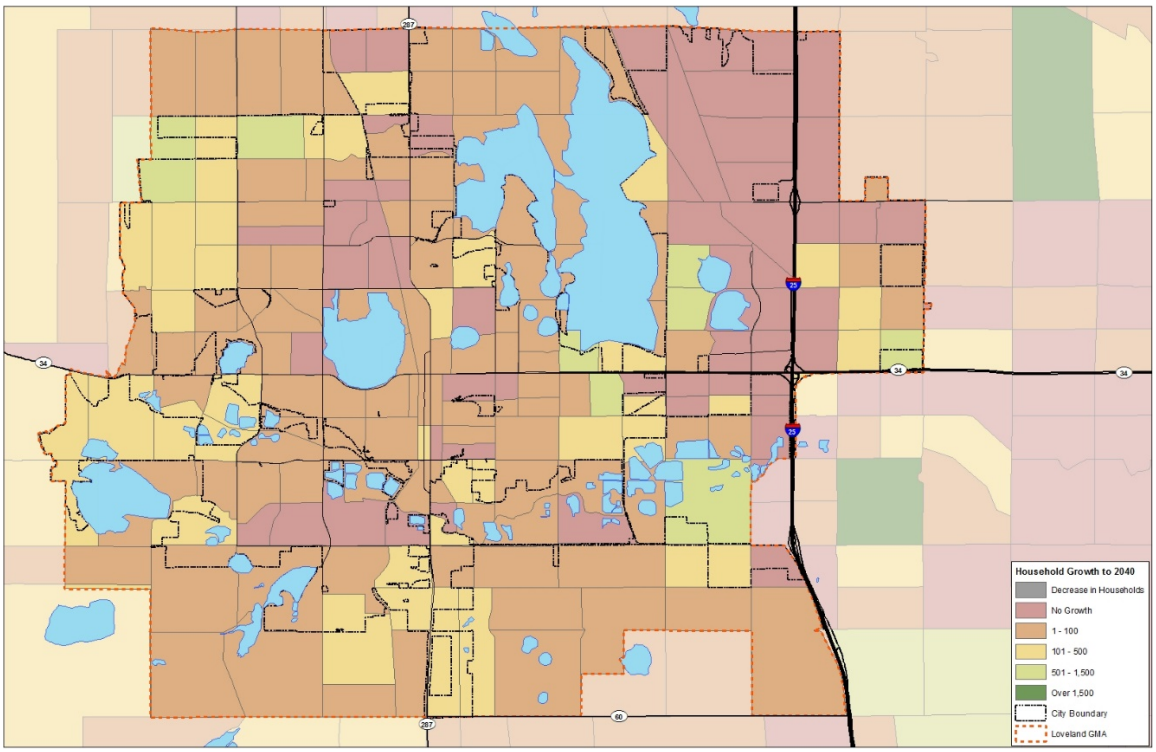


Figure 1: Forecasted Household Growth by 2040

Employment

The City of Loveland has an estimated employment base of nearly 42,000 jobs. The City's growth management area is estimated grow to a total of 74,000 jobs the year 2040, which is an increase of 32,000 jobs by 2040 (**Figure 2**). The NFRMPO forecast annual job growth of 1,300 jobs from 2012 to 2040 for the City's GMA. Employment growth in the City of Loveland has been over 1,500 new jobs per year from 2010 to 2015 according to the US Census Longitudinal Employer-Household Dynamics (LEHD) data.

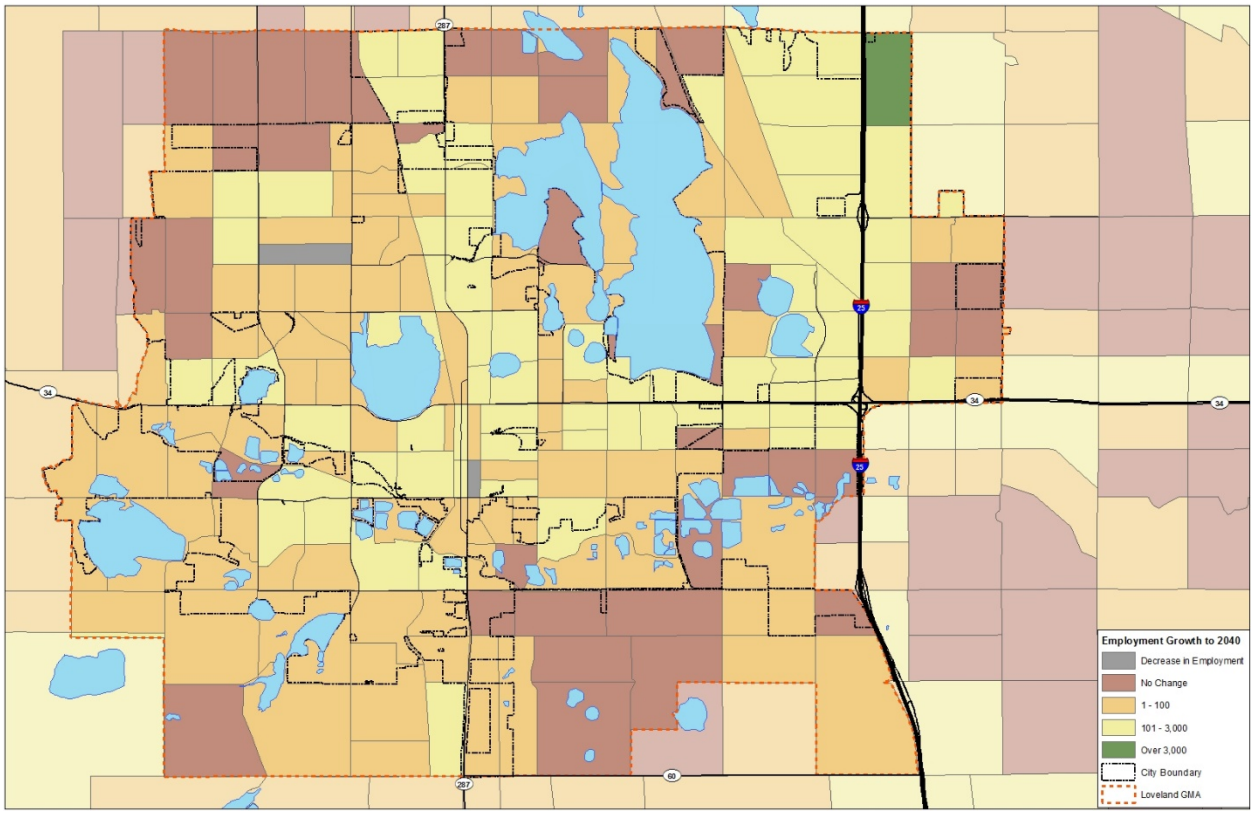


Figure 2: Employment Growth by 2040

2. Future Trends Impacting Loveland

There are a number of national trends that are likely to impact future land development in Loveland. Land development and growth patterns influence travel choices, traffic patterns, transit ridership, and bicycle and pedestrian activity. These changing trends require a fresh look at planned transportation projects and new ideas to accommodate future travel demands.

National Housing Development Trends

The U.S. housing market is changing as a result of broad demographic and economic shifts. The main factors highlighted in this section relate to housing affordability, demographic trends, and housing preferences.

Household Affordability

The cost of living is becoming an issue of increasing concern for most communities throughout the US. Housing costs, driven by increases in the cost of land, materials, and labor, have grown by 63% since 2000 while the median household income has only grown by 35%, which is slower than the rate of inflation. Many American households have to pay more for housing with declining income. As a result, consumer preferences and choices are changing based on a necessity for affordable housing types and locations. This affordability trend is most pronounced in rapidly growing areas, such as the Colorado Front Range.

Demographics Trends

The Baby Boom and Millennial generations are the two largest demographic segments influencing the housing market, accounting for 41% of the U.S. population. In Colorado, the Millennial generation is the largest generation and makes up a larger proportional share of residents than found nationally.

Baby Boom Generation Travel and Community Preference Survey

As Baby Boomers reach retirement and enter the senior age group, their housing preferences and transportation needs are shifting. A notable trend nationally for Baby Boomers is aging in place. Since the Baby Boomer generation was a primary driver of major suburban expansion between the 1980s and 2000s, many of these aging-in-place seniors will be in low-density single-family neighborhoods that have sparse transit coverage. As Baby Boomers transition into retirement, surveys have identified a number of travel and community preferences that are relevant to *Connect Loveland*:

- Safe and Well-Maintained Streets and Sidewalks – Based on an AARP survey, seniors place a high value on their community having maintained streets and sidewalks that are easy to navigate and safe for use as a driver, pedestrian, or bicyclist.
- Community Features – Seniors highlight the desire for convenient access to quality hospitals and health facilities, parks, and shopping destinations (e.g. grocery stores).
- Shared Mobility – Seniors cited a general awareness of new transportation technologies and services, such as ride-hailing companies, and a desire for services to help them access day-to-day goods and services. However, many seniors either have feel no immediate need for these services

or have concerns about security related to these services. In addition, this cohort may be slow adaptors to new technology or mobility services.

Housing Preferences

At least two national housing surveys indicate a likely shift in demand toward denser single household attached housing types, such as townhomes and row houses, in walkable, bikeable, or transit-accessible locations. This change in demand is a shift away from lower density single-family neighborhoods. These preferences contrast with the trends in housing development for much of the last half of the 20th Century and more reflect the preferences of Millennials.

In 2011, EPS and the Sonoran Institute completed a study titled *Reset: Assessing Future Housing Markets in the Rocky Mountain West*. A major finding was that buyers would pay more per square foot to live in neighborhoods built in a style defined as compact walkable development (CWD), 18% more on average before the recession. These areas also held their value better than conventional neighborhoods during the recession, with prices per square foot 12.5% higher on average (**Figure 3**).

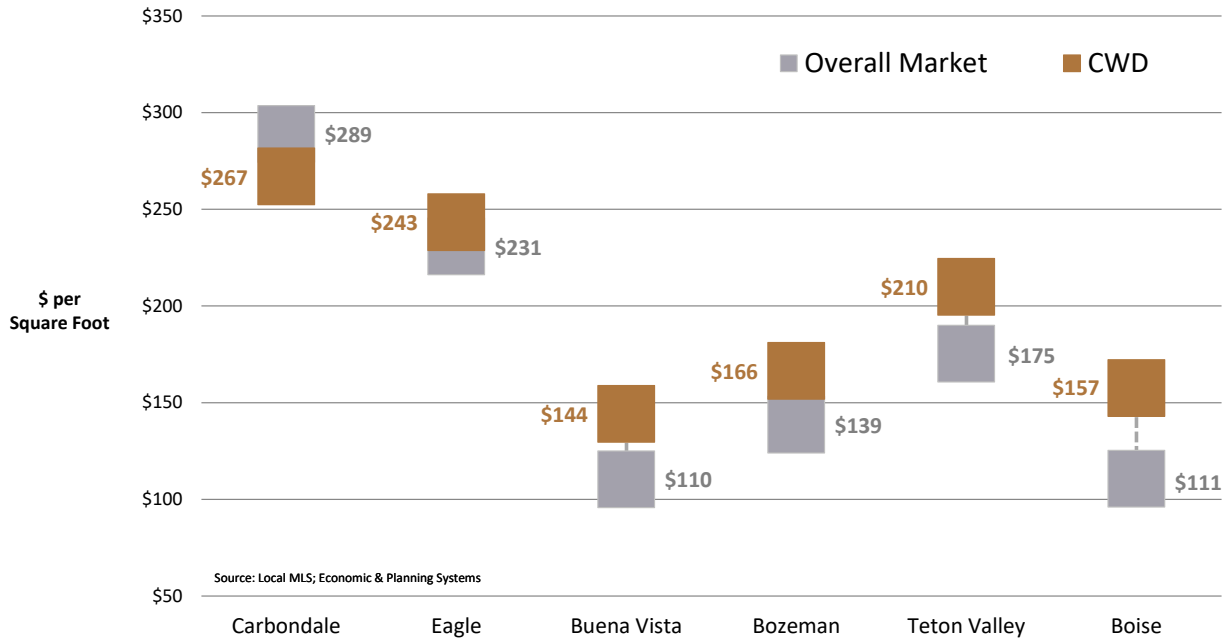


Figure 3: Price per square foot for compact walkable development, 2011

Non-Residential Development Trends Conditions and Trends

National trends impacting the growth and development of employment spaces are summarized in this section. Specifically, trends related to office, retail, and industrial space are documented.

Office Development

The following trends related to office development are summarized to illustrate future impacts on Loveland.

- Office Park Evolution - Nationally, office development is moving away from the single use, suburban office park or corporate campus to more mixed use, centrally located, and often transit-accessible locations in the core cities of major urban areas.
- More Efficient Office Space - Businesses are leasing less office space per person than in past years. Technology has reduced the need for space, and new workplace designs are more efficient. This slows the construction of office space even if office employment is increasing, compared to years past.
- Co-Working Space - Co-working space is a new type of office in which tenants rent desk space in an area shared with other workers and firms. They are popular with small new firms, which can be in any field including professional services, creative industries, and technology. These office formats are also attractive to larger employers that set up "remote desks" to accommodate the desire for shorter commutes while still maintaining an office setting. Co-working spaces are becoming more common in major and mid-sized cities and are being created Loveland given its attractive location within the greater Front Range area. These spaces are still a small portion of the overall office market.
- Loveland is increasingly becoming a hub of medical services in the Larimer and Weld County area. Medical uses are concentrating in particular around the I-25 and US-34 intersection. As the Baby Boomer generation ages, the demand for medical office space is expected to increase, and medical facilities tend to cluster together around major transportation facilities.

Retail Development Trends

The commercial retail industry has shifted greatly over the last 10 to 15 years, impacted by the growth of internet shopping, declining brick and mortar store sales, retail chain consolidations, and changing consumer preferences. Collectively, these trends are impacting store sizes and reducing the overall demand for new retail space locally and nationally. The following trends are likely to impact Loveland in the future:

- The Rise of E-Commerce - Between 2001 and 2015, total online retail purchases (excluding auto related) grew from approximately $29 billion to $310 billion, an 18.4% annual growth rate.
- Diverging Retail Demand - Changes in spending patterns are also affecting the amount and mix of retail space. Consumer spending is split between low-cost, high convenience retail options—where the internet is making significant impacts—and more experience, community, locally oriented retail options—where brick and mortar stores still have an edge.
- Store and Chain Consolidation - Over the past five years, there have been nearly 200 retail chain bankruptcies. In 2017, CNN Money reported that there were 5,300 store closing announcements through June 20 compared to 6,200 (through the same period) in 2008 during the Great Recession—the worst year so far for store closings. There are fewer stores in the market now, making it more difficult to find tenants for new retail developments, as well as increasing vacancies in existing centers as large blocks of space are vacated by store brands that no longer exist. Remaining chain

stores are concentrating around areas with convenient auto access and high visibility, like the I-25 corridor.

Industrial Development Trends

The industrial development patterns are shifting significantly in reaction to increase in technology and the internet. The shifts are having both positive and negative impacts on the economic health of communities. The following trends were identified:

- Growth of Logistics - As e-commerce has driven down demand for retail space, it has at the same time driven up demand for industrial development supporting its growth. Logistics and distribution-oriented employment sectors (transportation and warehousing, wholesale trade) and industrial development are the largest drivers of new industrial development. Logistics facilities tend to cluster on major highways at the periphery of the major metro areas. The I-25 corridor south of Loveland has seen rapid growth in these uses in recent years.
- Middle Skill Jobs - Traditionally, jobs within industrial oriented businesses are an important source of "middle skill" jobs—jobs that don't require a college degree but rather some form of specialized training. Automation is reducing employment in industrial oriented employment sectors and leaving fewer middle skill jobs. Loveland has traditionally had a concentration of middle skill jobs in manufacturing. These employers will look for centralized locations with the greatest access to the workforce in the future, which will increase the importance of access of residents to major employment hubs.

Impacts on the Future of Loveland

The economic, demographic, and land use changes occurring in Loveland and Larimer County mirror many of the changes occurring nationally. Some national housing trends indicate an increasing preference for compact, walkable communities, which could help reduce the need for driving. However other trends, like the sharply increasing cost of housing and the increasingly regional nature of the Northern Colorado economy, suggest personal vehicles will continue playing a significant role. So, what does this mean for the future of transportation in Loveland? As land use development patterns change both in terms of where development occurs and the types of development being built, the travel patterns of residents, visitors, and employees in Loveland will also change.

Additionally, changing preferences in how and where people shop has a strong influence on travel. Several key transportation implications for Loveland are:

- The City's residents are older on average compared to the State and Countywide population average. The numbers of family households and households with children have decreased significantly over the past two decades, illustrating the aging in place of many existing residents of Loveland, especially in older portions of the community. As Baby Boomers continue to age in place, their ability to operate a car will decrease over time. While future technologies like autonomous vehicles could mitigate the inability for seniors to drive, there is likely to be increasing demand for senior mobility services in low density areas, which tend to have low service levels and high operating costs.

- Aging and retiring Baby Boomers will tend to reduce AM and PM peak hour commute trips as they remain in their homes and are not replaced by younger working-age households. Midday travel could increase with this age group. Overall, seniors tend to have lower VMT per capita than younger households.
- The mix of new residential construction in Loveland in recent years has become more evenly split between single-family and multifamily. However, there has been a concurrent decrease in townhomes and "middle density" construction types that offer an in-between option. An increasing desire and financial need for more multifamily housing is evident in construction trends. A greater diversity of housing types will likely be desired by older residents who want to remain in the community and from new, younger residents moving to Loveland for work or for the quality of life. Lack of diversity may also exacerbate housing affordability, which tends to push lower-wage workers farther from their jobs, increasing VMT and traffic congestion in Loveland.
- There has been an increase in housing development in the community in recent years as the region has recovered from the Great Recession and is growing economically. However, the rate of housing production in the City of Loveland is still lower than experienced in the late 1990's and early 2000's. Reduced housing development in an area that is otherwise increasing in population will tend to result in less-affordable housing and increases in VMT and traffic congestion caused by employees who must commute further between available jobs and affordable homes.
- The regionalization of the northern Colorado economy has led to more residents living in one community and working in another community in the Larimer and Weld County area. As employment opportunities grow in the region while housing costs continue to increase, there will be increasing demand for people to live in Loveland and commute to major job centers to the south. This trend could increase demand for regional transit services, VMT, and potentially, traffic congestion in Loveland.
- The regionalization of the economy is also impacting many other communities in the North Front Range. This pattern will result in additional traffic and transit trips along the I-25 corridor. The growing logistics industry could also increase truck traffic on I-25. As this regional traffic grows, some local and even regional trips throughout the entire network, increasing traffic congestion in Loveland.
- Growth in e-commerce will reduce overall travel to retailers, which could reduce VMT. However, as traditional brick and mortar stores tend to be drawn to the I-25 corridor, travel to these stores from existing residences in Loveland could increase travel on the US-34 corridor as well as overall VMT.
- E-commerce growth may also result in less PM peak hour travel as deliveries tend to occur during the midday, however it is increasing the number of trips at non-traditional times including evenings and weekends.
- As offices add more workers per square foot, they will tend to generate more vehicle trips and parking demand per building than in the past. This trend could be offset by an increasing tendency for younger workers to commute by transit, bike, or walking, but these modes are only viable where adequate infrastructure and service exists resulting in the need of non-automobile infrastructure and services in both residential and employment areas.

3. Future of Transportation in Loveland

The existing conditions analysis for *Connect Loveland* found that the majority of trips in the City are taken by single occupancy vehicles, vehicle travel times are relatively stable throughout the day on major corridors and increases in traffic volumes over the past few years have been localized. Additionally, signalized intersections across Loveland operate without significant delays. However, public perception does not necessarily align with this finding. Nearly 40% of the 2018 Quality of Life survey respondents indicated they cannot travel by car to locations in Loveland with minimal delays.

Connect Loveland will face the challenge of bringing a more robust multimodal network to a community where car travel is currently predominant. However, as the region grows and develops further, single occupancy vehicle travel may not continue being reliable and community attitudes towards car travel may grow more negative.

The following section on the future of transportation in Loveland discusses planned projects for improving multimodal connectivity, how transit service locally and regionally might shift, and emerging trends that will influence the *Connect Loveland* planning effort.

Vehicle Travel

Traffic Growth

The North Front Range Metropolitan Planning Organization (NFRMPO), in consultation with member communities, maintains a travel model for the region. Based on land use growth forecasts (including assumptions about where new jobs, housing, and commercial development will occur) as well as planned transportation investments, the model forecasts total vehicle miles traveled (VMT) in Loveland to increase by 70% between 2012 and 2040. Not all traffic growth can be attributed to population growth alone. VMT per capita is expected to *increase* by 16% over the same time in response to more spread-out land uses and longer trips. This assumption is consistent with the land use and demographic trends described in Chapter 1. Without interventions in land use and transportation planning, this growth will increase congestion on the City's street network.

It should be noted that the model assumes mode share will remain about the same in the future. The model also does not account for emerging technologies and other trends affecting travel behavior as well as more recent plans and polices put forth by the City that may have a significant impact on mode choice and VMT in the future. These factors were explored with stakeholders part of a workshop in July 2019 to better understand how they will impact future VMT in Loveland. More is discussed in the TrendLab+ Section.

Regional Travel Patterns

Land use growth, transit investments, demographic changes, and the regionalization of the area economy (as discussed earlier) also impact regional travel patterns. Overall growth will contribute to an increase in regional trips into and out of Loveland, with traffic volumes increasing in some locations more than others. The NFRMPO model projects that between 2012 and 2040 there will be a 60%

increase in trips between Loveland and Fort Collins, more than doubling of trips between Loveland and Greeley, and a three-fold increase in trips between Loveland and the Central I-25 sub-region (defined as east of I-25 and west of Greeley between Mead and SH 14).

Future of Biking and Walking

Trends

Nationally, the amount of biking and walking has generally stayed level as a share of overall travel for the past five years. However, areas that are investing in walking and biking infrastructure are seeing increases in these types of activities while areas that are not are seeing decreases, in part because of an increase in auto ownership in lower income neighborhoods.

While biking and walking mode shares have not changed substantially over the past several years, the number of crashes involving people who walk and people who bike resulting in serious injury or fatality has increased. While further study is needed, distracted driving and distracted walking are often cited as potential reasons for the increase in the serious crash rates.

As described earlier, the NFRMPO model does not predict major changes in walking and biking in the future. However, it should be noted that the model is not detailed enough to identify how improvements in biking and walking infrastructure or how land use density patterns could influence people's choice to walk or bike. It is well documented that a robust network of connected bicycle facilities and compact development with grid-like pedestrian networks increase the likelihood that people will bike and walk to work, shopping, and for recreation or exercise.

Vision and Goals

The vision for the 2012 Bicycle and Pedestrian Plan is to *"plan a safe, efficient, continuous, coordinated and convenient multi-modal transportation system that serves the needs of the community now and establishes the foundation for a transportation system that is sustainable for future generations.*" The 2012 Plan works to do that by identifying strategies and activities that increase the use, safety, and convenience of biking and walking within and around the City of Loveland. Similarly, the vision of the NFRMPO's 2016 Non-Motorized Plan is to achieve a fully connected trail network that "*provides additional transportation choices, enhances access to transit, complements community centers, and empowers people who do not have access to or cannot operate a motor vehicle*."

Given the trends described earlier, Loveland and the region's active transportation visions continue to be relevant from both a quality of life perspective and when considering the potential to provide options and reduce reliance on automobile travel. *Connect Loveland* will refine these previously adopted visions based on public and stakeholder input, changes to the community, and forecasted growth. This new vision will play a valuable role in guiding project recommendations and prioritization.

There are a number of benefits to investing in a multimodal network that have guided the goals from previous planning efforts. Some of the goals from the 2012 Bicycle and Pedestrian Plan and NFRMPO's 2016 Non-Motorized Plan, like promoting bicycle and pedestrian safety, will be carried forward into *Connect Loveland* since efforts in areas like roadway safety will never lose importance. Other goals, like developing a "complete streets" network will be updated to reflect the more recent concept of a "layered network," which views active transportation planning more holistically. Rather than ensuring

individual streets are safe for bicycling and walking, layered network planning focuses on identifying low-cost interventions that can make a set of local streets serve a variety of walking and biking trips. Layered network planning also allows for easier integration with updated goals for transit and vehicle travel by helping to categorize some streets as bicycle and pedestrian focused while other streets can prioritize targeted transit improvements.

Proposed Infrastructure

Pedestrian Network

The 2012 Loveland Bicycle and Pedestrian Plan recommends a continuous and high comfort pedestrian network, shown in **Figure 4.** Pedestrian projects in the 2012 Plan include filling in missing sidewalk segments, intersection improvements, and widening of existing sidewalks. Building out the pedestrian network in Loveland should continue being a City priority. *Connect Loveland* will provide a revised and strategic set of sidewalk improvements that will focus on providing comfortable walking infrastructure that connects to areas of the City with high potential for more walking trips. *Connect Loveland* will update this map of existing and proposed pedestrian infrastructure in **Figure 4**, including both sidewalks and crossings.

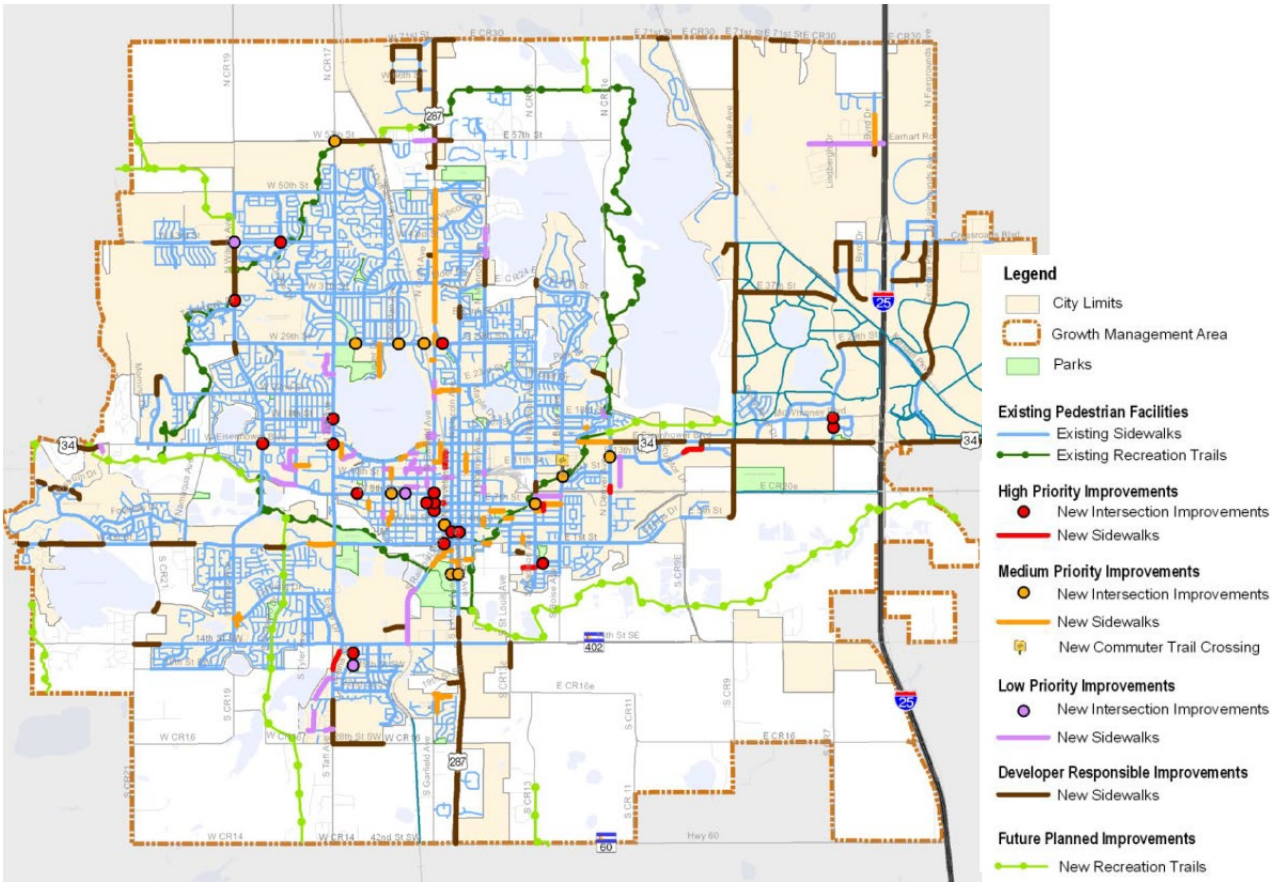


Figure 4: 2012 Pedestrian and Bicycle Plan Proposed Pedestrian Map

Bicycle Network

The 2012 Loveland Bicycle and Pedestrian Plan recommends a connected and intuitive bicycle network, shown in **Figure 5.** The 2012 Plan emphasizes building on the existing trail network to provide increased

access to destinations, upgrading existing bike facilities, and adding on-street bike facilities on new streets to create a denser, more connected network. High priority biking projects provide access to schools, address safety challenges, and provide connections at key gaps. *Connect Loveland* will build upon these efforts and incorporate new approaches to bicycle planning. For example, planning low-stress facilities that riders feel comfortable and safe using has become prioritized over implementing bike lanes on the most direct route between major destinations. *Connect Loveland* will update the map of existing and proposed bicycle infrastructure in **Figure 5**, including both on-street facilities, trails, and crossings.

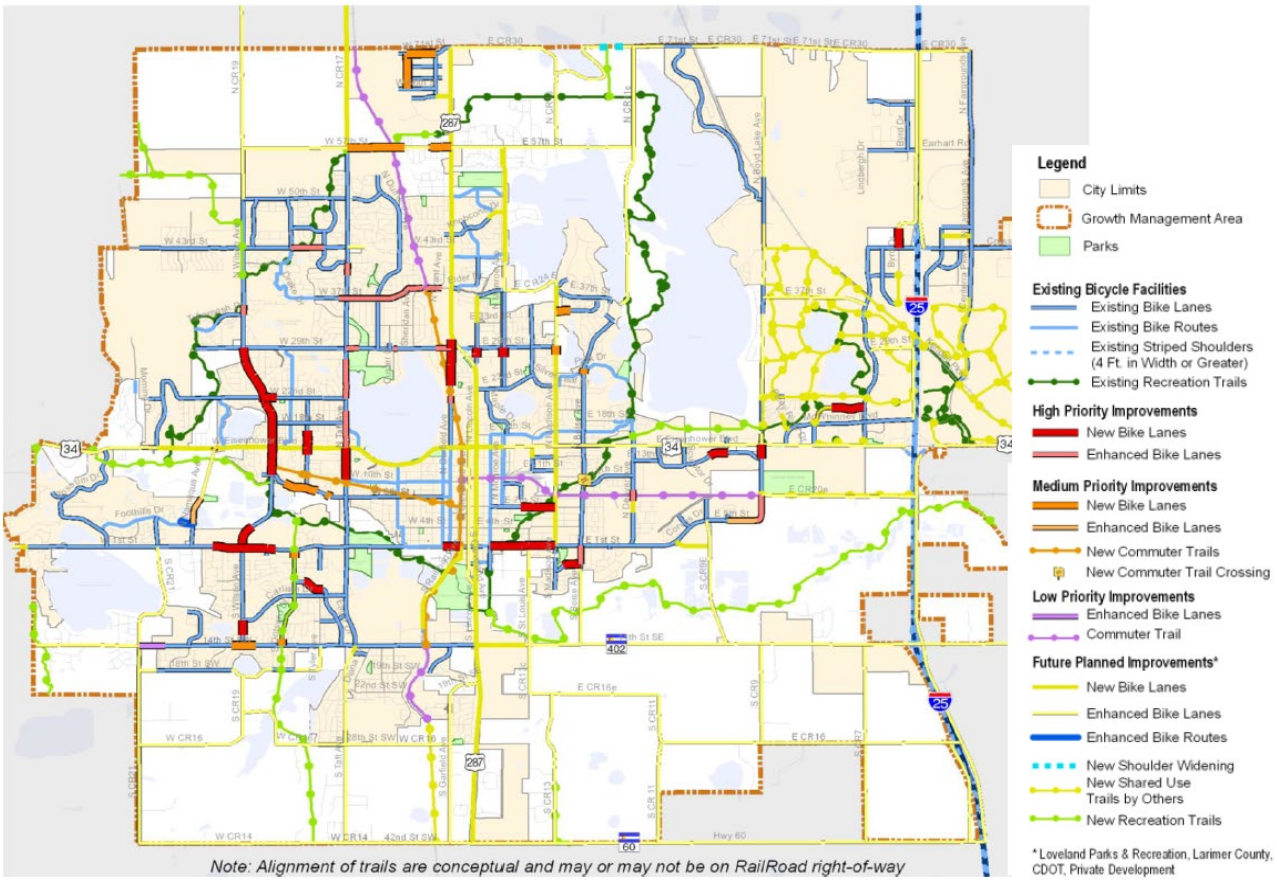


Figure 5: 2012 Bicycle and Pedestrian Plan Proposed Bicycle Map

Regional Corridors

Of the 12 corridors featured in NFRMPO Non-Motorized Plan shown in **Figure 6**, six will enhance regional access for Loveland's active transportation users. Of the six, two have been completed through Loveland – the North Loveland/Windsor Trail (Corridor 5) and the Front Range Trail (Corridor 7). *Connect Loveland* will consider how to better integrate the following planned corridors with the City's bicycle and pedestrian network, and will consider which corridors should be prioritized to serve Loveland:

- The Big Thompson River trail (Corridor 2) will be a 35 mile, east-west facility connecting the existing Loveland Recreation Trail to communities like Milliken and Evans, and will ultimately serve 15 schools.

- The Great Western/Johnstown/Loveland Trail (Corridor 4) will run 25 miles from Loveland to Eaton. It will follow the alignment of the Great Western Railroad and will serve as a connector to the rural areas in the northeastern portion of the MPO region.
- A 24-mile facility is planned to run along the BNSF corridor south of Fort Collins (Corridor 8). This trail will connect the downtowns of Berthoud, Fort Collins, and Loveland.
- To improve east-west bicycle connections, a 21.5 mile facility is planned to run along US-34 (Corridor 11). This trail will connect Loveland to Greeley.

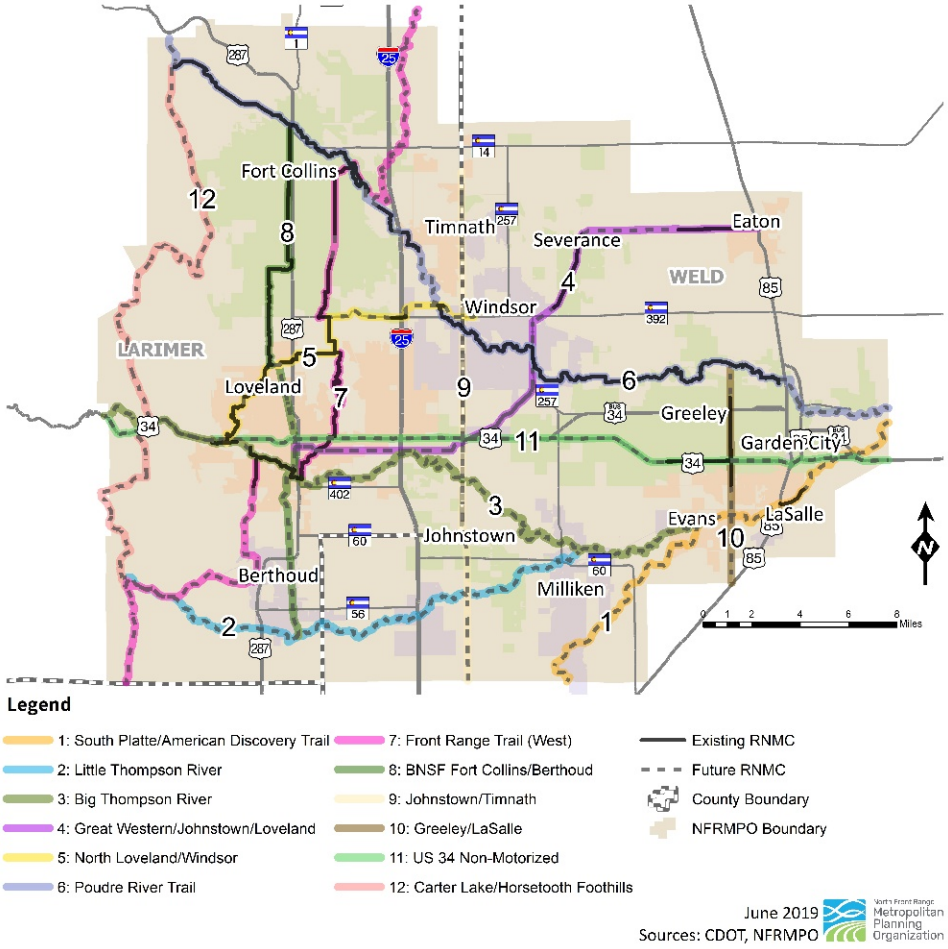


Figure 6: NFRMPO Regional Non-Motorized Corridors

Proposed Policies and Programs

In addition to infrastructure improvements, previous plans recommend a number of policies and programs to promote biking and walking, educate on safe behavior, and provide low-cost supplements to improved infrastructure. These policies and programs range from increased code enforcement for sidewalk maintenance to educational programs. During the *Connect Loveland* process, existing policies will be reviewed and streamlined. The final plan will provide a compact set of policies designed to support Loveland's active transportation goals. The new policies will include corresponding performance measures for helping to monitor whether the new policies are meeting City goals. In addition, an updated set of programs will be included in *Connect Loveland*. These programs will reflect current best

practices for achieving higher mode shares for active transportation while also improving multimodal safety outcomes.

Potential Barriers or Conflicts

Given the traditionally auto centric nature of Loveland, gaining community input and appetite for implementing active transportation projects will be critical to evolving Loveland's transportation system. Although infrastructure for biking and walking is traditionally less expensive than vehicular improvements, there is limited funding for transportation overall, so active transportation infrastructure will require a dedicated funding stream. Building on-street bicycle facilities may require additional right-of-way, narrowing vehicle travel lanes or reducing on-street parking. However, with the multitude of benefits that biking and walking offer—economic, environmental, and health—it is important for the City to prioritize these investments in infrastructure, policies, and programs in order to expand the transportation options for the community. *Connect Loveland* will graphically depict the benefits, costs, and potential trade-offs of an enhanced biking and walking system so that the public and decision makers can provide more informed input on this potential shift in how the City prioritizes transportation investments.

Future of Transit

Local Transit Ridership

Over the past five years, transit ridership has been on a steady decline nationally and in many Colorado communities. This trend in declining ridership was even more pronounced in Loveland with ridership decreasing by 29% between 2013 and 2018. However, ridership data from early 2019 shows that transit ridership on the City of Loveland Transit (COLT) may be starting to rebound in response to the route restructure made in late 2018 that increased frequencies and the directness of routes. The extent to which ridership on the COLT can continue to grow in the future (or starts to decline again) will depend largely on the following opportunities, challenges, and actions the City takes.

COLT Funding & Planned Investments

The 2009 Transit Plan outlined a phased approach to improving and aggressively increasing transit service levels over a 20-year period. The recent restructure followed some of the recommendations of that plan, including increasing frequencies and routes with two-way travel. The City also recently purchased land to construct a permanent North Transfer Center. Most of the recent improvements were made without increasing funding levels. Some level of increased investment will be needed over the next 20 years just to keep up with population growth. Fully implementing the 2009 Transit Plan will require a six-fold increase in transit funding or about four-fold increase in per capita transit investment (assuming population grows by about 50% as forecast).

Connect Loveland will verify whether the 2009 Transit Plan is still relevant, given the land use, demographic, and technological changes that will be influencing Loveland in the future. One point, however, is clear: incremental growth in transit funding will lead to incremental changes, or even a decrease, in transit ridership and mode share as disruptive technologies that fundamentally change travel behavior, like autonomous vehicles, become common. *Connect Loveland* will weigh the benefits of increased transit service (in terms of lower VMT, less traffic congestion, and greater mobility for those who can't drive or afford new transportation technologies) against the increased costs to provide this type of service.

Land Use Growth Patterns

As new residential and commercial development occurs, particularly at infill sites along major corridors, new markets for capturing additional transit riders will emerge. There is clear research that shows the linkage between higher densities and increased transit ridership and lower VMT. *Create Loveland* envisions new commercial development concentrated at prominent intersections and nodes and along transit supportive corridors. Directing new and dense development along transit corridors (such as US-34, US-287, and SH-402) and allowing for higher density nodes will contribute to increased transit ridership. Low density developments on the edge of the City will be more challenging and less cost-effective to serve by transit, but *Connect Loveland* will explore emerging technologies to provide more cost-effective transit options for these parts of the City.

The success of transit in the future will heavily depend on investments to the pedestrian amenities, including walkways and street crossings within existing and future developments. *Connect Loveland* will align the transit network to the bicycle and pedestrian networks, which greatly expands the reach of transit to include areas beyond the core transit corridors.

Changing Mobility

In the coming decade, a wider array of mobility choices will affect ridership on public transportation. Increased use of ride-hailing (Uber/Lyft) is having an impact on transit ridership in addition to driving. Upcoming technologies, such as autonomous vehicles, may also reduce ridership on public transportation while increasing traffic congestion. Without adaptation by the City, new technologies may further cut into the transit market, which will make it less cost-effective and therefore more challenging to provide public transit to those who cannot access these newer transportation technologies. On the other hand, leveraging autonomous vehicle technology in buses may also reduce the cost to provide transit by eliminating the need for drivers – as can leveraging ride-hailing services to provide transportation to low density neighborhoods or during non-peak hours. By supporting a variety of shared mobility options and innovations in transportation (see Emerging Transportation Trends discussion below), and strategically integrating new technologies with traditional transit, the City can continue to provide public transportation while increasing mobility options, particularly for those who do not have the financial or physical means to drive alone. The bottom line is that changing transportation technology will impact public transit, and cities must adapt to leverage these changes in the most positive ways. Public transit will continue to be the most energy and space efficient way to move large numbers of people, even with autonomous vehicles. *Connect Loveland* will identify where the primary public transit corridors should be located and identify where other technologies can be integrated to enhance mobility for Loveland residents, visitors, and employees.

School Bus Changes

The Thompson School District recently cut back on the number of students eligible for school bus service. If this trend continues, more and more students will rely on public transit to get to and from school and this may affect COLT route planning and service levels during morning and afternoon school commuting hours. Additionally, students who shift to cars to get to school may increase congestion and parking challenges in and around schools.

External Factors

External factors that have more to do with national trends will continue to impact transit ridership locally. The most prominent factors include the cost of gas and affordability of operating a vehicle. While

the City has less control over these factors, the more Loveland addresses other opportunities and challenges (as identified in this plan), the more resilient the system will be to fluctuations in external factors. Potential strategies include: identifying a sustainable source for increased transit investments, focusing land use development and urban design in a transit supportive manner, and adapting the transit system to leverage new technology.

Regional Transit Changes

Transit service between Loveland and surrounding communities has grown significantly in the last decade. Most notably this has included expansion of the FLEX service along the US-287 corridor to Fort Collins, Longmont, and Boulder as well as the introduction of (and growth of) Bustang service provided by CDOT along the I-25 corridor to downtown Denver. Regional transit service to Loveland is expected to continue to increase in the future and play a larger role in regional commuting patterns. The growth in regional transit is an important consideration given the increasing regionalization of the area economy, as described in the first chapter. The continued dispersal of workers relative to employment areas and housing affordability issues in certain areas will increase demand for regional trips both in cars and in transit. *Connect Loveland* will identify regional transit corridors that have particularly strong travel growth in the future.

FLEX

The 2009 Loveland Transit Plan, the 2019 Fort Collins Transit Master Plan, and the 2045 Regional Transit Element (RTE) supports increasing FLEX service north to Fort Collins and south to Longmont and Boulder to capture a larger share of the growing commuting population between these nearby cities. Expansion will be achieved through collaboration with Fort Collins and other communities to fund increased frequency and span of service to more time of day and days of the week. Over the years, FLEX has seen strong ridership performance, and this trend is likely to continue given regional employment and housing trends.

Bustang to Denver

As part of the ongoing I-25 North expansion project, CDOT is investing heavily in infrastructure for transit service along I-25 between Fort Collins, Loveland, and Denver. Investments include a new bus stop in the median of I-25 at Kendal Parkway in Loveland (including an expanded park-and-ride and local bus connections) and an express HOT (high-occupancy vehicle/toll) lane that will significantly improve transit travel time. It is expected that additional service will be added to this route in the future and *Connect Loveland* will put Bustang investments in relative priority to other potential regional transit investments.

Intercity Rail

CDOT has studied and recommended commuter rail connecting Fort Collins, Denver, and other northern Colorado communities, including an alignment via the existing freight rail line through downtown Loveland. According to the Statewide Transit Plan: *an alignment for a North I-25 Commuter Rail line is part of the Preferred Alternative included in the North I-25 Environmental Impact Statement (CDOT, 2011). The alignment would start at the North Metro Commuter Rail end of line and travel primarily along US-287 to the transit center in downtown Fort Collins with stops in Erie, Longmont, north Longmont, Berthoud, downtown Loveland, north Loveland, south Fort Collins (South Transit Center), and Colorado State University.* CDOT is in the process of initiating a Front Range Passenger Rail Service Development Plan and NEPA Study. The goal is to bring passenger rail along the Front Range from

Pueblo to Denver in the future. Implementation is heavily dependent on funding. If implemented, Loveland may be served by an alignment recommended by the Front Range Passenger Rail Commission along either the existing BNSF rail line through downtown or the I-25 corridor. Implications on parking, local transit connections, and potential station locations of both options for passenger rail alignment through Loveland will be explored as part of *Connect Loveland*.

Other Regional Markets

Two new regional routes will likely serve Loveland in the future, including a new route to Greeley and Estes Park. Service to Greeley is recommended in the 2009 Loveland Transit Plan and both routes are included as part of the 2015 Statewide Transit Plan and the 2045 RTE. *Connect Loveland* will verify the need and priority of these new regional routes relative to other regional transit investments.

Emerging Transportation Trends

New technologies are emerging daily that are fundamentally changing the way people think about moving around the community. Most of the emerging trends and technologies listed here are so new they were not considered as part of recent planning efforts in Loveland. However, some have already started to manifest in Loveland and other places around the world. Others are still in early development but will likely impact Loveland as they are more fully integrated into day-to-day mobility over the next 10-20 years.

Connect Loveland will identify potential policies, infrastructure, and plans to leverage these emerging technologies so they support, as oppose to detract from, the City's future mobility goals.

Shared Mobility

Shared mobility—the shared use of a motor vehicle, bicycle or other low-speed travel mode (such as a scooter)—is an innovative transportation strategy that enables users to have short-term access to a mode of transportation on an as-needed basis. Shared mobility also provides a broader set of transportation options for users that reduce reliance on the private automobile, therefore mitigating congestion and carbon emissions. Shared mobility is a key component of Mobility-as-a-Service (MaaS), described later in this section.

Bike/Scooter-Share

Bike share systems for both traditional and electric bicycles, and more recently electric-scooter share, have been a rapidly evolving trend over the last decade and have gained traction in communities both large and small worldwide, shifting the way communities plan for and provide transportation. Bike share and scooter share have the potential to increase mobility options available in Loveland in the future and have been used in other places to improve access to transit, particularly to and from express and regional transit. While bike share and scooter share currently do not exist in Loveland, many of the nearby communities, including Boulder, Denver, Longmont, and Fort Collins, have bike and scooter share systems in place. If Loveland were to introduce a bike share or scooter share program, it would be important for the City to work closely with potential operators to design a program that supports the communities land use and transportation goals, while mitigating potential issues. For bike share and scooter share to be successful, Loveland should also continue to invest in and improve bicycle and pedestrian infrastructure as well as ensure policies are up to date and clear on where and how future

users are to use these vehicles within the public right-of-way. Thus, a clear linkage between bike share/scooter share policies and the *Connect Loveland* bicycle network will be important.

Car-Share

Car-sharing is a model for car rental, similar to bike share or scooter share, which allows users to pay for access to vehicles for limited periods of time. Car-share systems tend to have vehicles dispersed throughout a service area, and can be reserved through a few clicks on a web page or smartphone app. Loveland can support car-share in the future by permitting on-street parking, dedicating parking spaces for car-share providers, and providing incentives or requirements for new developments to provide car-share or dedicate space for car-share parking. The market viability of introducing car-share to Loveland will depend on the extent to which people can get around the city by foot, bike and transit and therefore chose not to own a car. Cities with poor transit and limited walking and biking are not viable for car-share businesses to operate.

Ride-hailing

Ride-hailing, provided primarily by Transportation Network Companies (TNC), i.e. Uber and Lyft, is a newer mobility service that has exploded in popularity over the past few years. At its most basic level, ride-hailing is simply the modern version of a taxi using a web-based platform that matches passengers with drivers in a simpler and more intuitive way. Uber and Lyft are currently the TNCs operating within Loveland and the surrounding region. Locally, riders can use a service called zTrip, which provides on-demand taxi style service in Northern Colorado using both sedans and wheelchair accessible vehicles. zTrip allows riders to book trips through an app.

Nationally, TNCs/ride-hailing represent the fastest growing transportation mode. Overall, ride-hailing presents some mixed opportunities for Loveland. Ride-hailing provides a niche in the travel market for many trips: evenings and weekends when transit does not operate; travel with bulky items; social travel; and more. Ride-hailing also can help to reduce the risk of impaired driving by providing an easy way home for people who shouldn't be driving. On the other hand, excessive use of ride-hailing can lead to increased VMT, energy use/greenhouse gas emissions, traffic congestion, and crowded curb spaces and loading zones. Ride-hailing is also not a viable transportation mode for some low-income households, outside of occasional/emergency use, so TNCs cannot be relied on for basic transportation services.

Because the vast majority of trips in Loveland today are made by driving, the risk for increased VMT from ride-hailing is small. However, as Loveland grows in the future and makes investments in the pedestrian, bike and transit network the City may need to work more closely with TNCs to ensure that ride-hailing is part of the mobility environment, and does not detract from investments in the multimodal network. Some potential future strategies to balance the pros and cons of ride-hailing are provided later in this document.

Curbside Management

As TNC's and delivery trucks (driven by increases in e-commerce) increase in popularity, they also increase demand for curb space through pick-ups and drop-offs. Without designated curb space and enforcement of pick-up and drop-off zones, TNC and delivery vehicles can block travel lanes, conflict with bicyclists and pedestrians, double park, or block bus stops. This can result in safety conflicts and operational inefficiencies for private autos, freight, and transit. Curbside management may be something the City will need to consider downtown in the future and *Connect Loveland* will provide

guidance and policy templates that the City can implement when the timing is appropriate. Potential future considerations could include creating designated pick-up and drop-off zones, relocating curb space along a block and implementing flexible curb space that fluctuates throughout the course of a day or week.

Electric Vehicles

Electric vehicle (EV) technology continues to advance at a rapid pace with increasing regulatory and financial incentives to encourage production and use at both the State and Federal level. The primary advantage at the City-level includes reduced vehicle emissions. Planning for future EV integration in *Connect Loveland* may include provision of on-street and off-street EV parking and charging stations on public property as well as incentives and requirements for provision of EV charging stations and infrastructure by developers. FTA grants for replacing the COLT bus fleet with diesel buses are increasingly hard to come by as incentives are geared toward electric buses. Given this trend the City should collaborate across departments to work toward modifying bus maintenance facility and major transit stations to support electric buses in anticipation of one day converting to an all-electric fleet. In addition, I-25 is a federally recognized alternative fuel corridor, where infrastructure upgrades are being made to supportive use of electric and other alternative fuel vehicles.

Autonomous and Connected Vehicles

Autonomous and Connected Vehicles (AV/CV), are two vehicle technologies that are rapidly evolving with the potential to impact travel patterns and trip choices in the future. AVs are capable of sensing the environment and moving through the street network with little or no human input. CVs are vehicles that communicate with other vehicles on the road, as well as connected infrastructure, to improve roadway use and safety.

AVs may increase the demand for travel due to the decreased opportunity costs for travel and decrease the demand for parking. In addition, research on travel behaviors suggests that AVs may decrease transit usage except for high-frequency transit services like trains or bus rapid transit that operate on a dedicated facility. Some travel related to AVs has potential positive outcomes by providing elderly and youth populations with more mobility options and expected improvements in traffic safety. The final *Connect Loveland* Plan will feature a set of strategies for preparing for and managing AVs and CVs.

Mobility as a Service

Mobility as a Service (MaaS) describes the shift away from privately owned automobiles and toward transportation that is offered as a service. This includes both public and private providers that can work together to provide a holistic landscape of transportation options either as a subscription or pay-as-you-go service. MaaS provides reliable and comprehensive transportation options and information that can reduce the reliance on or eliminate the need for private automobiles. The average car costs more than $8,800 per year to own and operate. By comparison, MaaS reduces costs for the user, decreases congestion, reduces emissions, increases the use of public infrastructure, and provides transportation providers with the data they need to be more cost-effective. MaaS can become increasingly appealing and viable through an integration of modes that includes payment integration, a trip-planning app and mobility hubs.

Loveland can encourage and facilitate MaaS by:

- Requiring open data from private providers to facilitate trip planning. This includes providing trip planning information and trip costs in a way that can be easily aggregated by a third party;
- Creating a platform for integrated payment that starts with COLT and later expands to include private providers. Ultimately, Loveland may seek to require that third parties participate in an integrated payment system as a condition of operating in the City; and
- Creating public-private partnerships that use private providers to complement and supplement public transit. These partnerships can also help improve human service transportation provision. Larimer County and the North Front Range MPO are currently collaborating on establishing a One-Call/One-Click center for connecting older adults and people with disabilities to transportation resources in the region.

Connect Loveland will provide guidance on how the City can prepare for and encourage MaaS through policies, City data management, and partnerships.

New Technologies for Improving Transportation Networks

Intelligent Transportation Systems (ITS) are new technologies that are reshaping traveler experience on roadways. *Connect Loveland* will identify tools the City can use to make existing transportation infrastructure more efficient, user-friendly and safe. Some examples of ITS include:

- Adaptive Signal Control: Traffic signals that can automatically adjust traffic signal timing based on traffic conditions. These signals help reduce traffic congestion and pedestrian and bicycle crossing wait times.
- Transit Signal Priority (TSP): Adaptive signal technology that allows buses to communicate with a traffic light in order to extend green time. TSP helps transit vehicles run on schedule. Innovative new uses for traffic signal pre-emption are also emerging. For example, Los Angeles is testing traffic signal pre-emption to trigger red lights for speeding vehicles during off-peak hours of the day to improve traffic safety.
- Mobility Hubs: Centers that integrate various modes to allow users to make seamless connections between their origins and destinations. Often centered around transit stations, mobility hubs enable quick transfers from a bus onto a scooter or shared bike, and can also share real-time information on connecting buses, availability of shared-use mobility devices, and walking directions to nearby destinations.
- Connected Vehicles and Infrastructure: Whereas roadways were previously envisioned as a tool for enabling individual vehicles to move, new technologies are increasingly connecting vehicles with one another and with the roadway. By “connecting” vehicles and roads through wireless communication technologies, mobility improvements can be made without rebuilding roads or pursuing other costly upgrades. Instead, vehicles can communicate with one another to avoid collisions, reduce following distance, and monitor possible obstructions that may go unnoticed by drivers. Vehicles that communicate with roadway infrastructure can help planners and traffic engineers mitigate against congestion and reduce emissions. These new technologies are evolving and will become standard in private vehicles. *Connect Loveland* can include corresponding updates to the City’s roadway network, which will enable vehicles and roads to operate together more seamlessly.

TrendLab+ Results

Placeholder to be updated after TrendLab+ workshop

Conclusion

This future conditions analysis has found that Loveland will be a community where Baby Boomers will age in place while Millennials also begin to call the city home as they seek a high quality of life. Both groups will increasingly demand walkable neighborhoods and a greater range of mobility options. Meanwhile, Loveland's position in the North Front Range will contribute favorably to it becoming an employment hub for the region, but there is a trend toward less multi-family housing development, which could accelerate housing affordability issues and require more workers to make longer trips by car or transit to Loveland. Trends suggest that as Loveland grows, single occupancy vehicle travel could become less reliable as the City and region continue to expand in size, which will lead to an increased need for a robust biking, walking, and transit networks.

While the vision for future transportation in Loveland is for a city that provides strong regional connectivity using a variety of travel modes, potential barriers to adopting this vision exist. *Connect Loveland* will need to address several challenges in order to successfully balance mobility needs across many demographic groups and multiple modes. These include elevating the profile of multimodal transportation in a community where single occupancy vehicle travel has been the dominant mode choice for decades, identifying strategies for securing the right-of-way needed for active transportation and transit projects, identifying a desired level of transit service that the community can support financially, and determining how to fund projects that are both currently planned and will be featured in *Connect Loveland*.

The results of this future conditions analysis will be used to inform *Connect Loveland* and shape plans for a transportation network that serves the Loveland of 2040.

Connect Loveland

Vision, Goals and Objectives
Final Draft

September 2019

CONNECT LOVELAND

City of Loveland

Connect Loveland: Vision, Goals, and Objectives

The following document outlines a draft vision along with a set of proposed goals and objectives for the Connect Loveland Transportation Master Plan. Goals and corresponding objectives have been divided into topic areas that will ultimately represent different sections of Connect Loveland.

Many elements in this draft are adopted from previous planning efforts in Loveland and some pieces have been drafted specifically for Connect Loveland, based on more recent changes in the rapidly evolving transportation landscape and Loveland's growing population. Input from the Connect Loveland Stakeholder Committee (CLSC) and other Loveland stakeholders were critical for determining the final shape these critical planning elements take.

To help provide a framework for this document, please refer to the following definitions:

Vision:

Thinking about the future with wisdom and/or imagination. Something to be pursued, **the end result.**

Goals:

The desired end result of any number of efforts. A goal **defines the direction and destination,** changes the direction of the City toward the end result.

Objectives:

All about the tactics. Objectives are **action items** to get from where we are to where we want to be. A goal defines the direction and destination, but the road to get there is accomplished by a series of objectives.

Connect Loveland Vision

Loveland's multimodal transportation network will be safe, accessible, regionally connected, and user-friendly, providing reliable and convenient access to everyday destinations for all ages and abilities.

Topic Areas

The goals and objectives have been organized by 10 topic areas, which are as follows:

1. Multimodal Connectivity
2. Aligning Transportation and Land Use and Development
3. Trails/Recreation
4. Environment
5. Health and Safety
6. Policies and Programs
7. Implementation/Funding
8. Equitable Access
9. Regional Coordination
10. Innovation

1. Multimodal Connectivity

Bicycle Goal:

Create a safe and connected bicycle network that is reliable and accessible to community members across a range of bicycling interests, skills, and abilities.

Pedestrian Goal:

Create a low stress network of pedestrian facilities that are accessible and efficient to community members of all ages and abilities.

Bicycle Objectives

Connect Loveland New Objectives

- Create a layered network of bicycle facilities that adheres to local, state and national design standards.
- Create bicycle level of service guidelines to evaluate facilities based on their directness, continuity, intersection crossings, visual interest, amenities, and security.
- Provide safe intersection crossings for people on bicycles.
- Provide bicycle connectivity to everyday destinations (i.e., work, school, transit, retail, parks, activity centers and public activities) so that people have travel options.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Prioritize the completion of missing segments of the low stress bicycle network.
- Coordinate the provision of bicycle facilities among various City departments, local governments, state and federal agencies, and special districts, as appropriate.
- Coordinate with the school district to prioritize safe biking routes to schools.
- Provide infrastructure to make bicycling convenient and viable for all types of trips and for all ages, abilities, and income levels, with an emphasis on bridging first/last mile gaps.

Pedestrian Objectives:

Connect Loveland New Objectives

- Create a layered network of pedestrian facilities that adheres to local, state and national design standards.
- Create pedestrian level of service guidelines to evaluate facilities based on their directness, continuity, street crossings (at intersections?), visual interest, amenities, and security.
- Provide safe intersection crossings for people walking.
- Provide pedestrian connectivity to everyday destinations (i.e., work, school, transit, retail, parks, activity centers and public activities) so that people have travel options.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Evaluate the established street levels of service standards to ensure that they meet the needs of the community and do not hamper walkability and quality neighborhood design.
- Create a walkable environment in commercial (retail) and office locations by designing pedestrian access that is safe, direct, and comfortable.
- Prioritize the completion of missing segments of the low stress pedestrian network.
- Coordinate the provision of pedestrian facilities among various City departments, local governments, state and federal agencies, and special districts as appropriate.
- Work with the school district to prioritize safe walking routes to schools.
- Provide infrastructure to make walking convenient and viable for all types of trips and for all ages, abilities, and income levels, with an emphasis on bridging first/last mile gaps.

Transit – Goal:

Enhance the transit system to provide an equitable, reliable, convenient and user-friendly travel option.

Transit – Objectives:

Connect Loveland New Objectives

- Transit stops and transfer centers will be improved to enhance customer experience and safety.
- Pilot innovative mobility options like on-demand transportation or micro-transit, for serving lower-density communities and connecting communities where wider transit coverage is difficult to achieve.
- Implement an integrated fare payment and trip planning application to connect COLT, the regional transit system, and first/last mile solutions.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- The City's public transit system will be expanded in phases to provide integrated, high-frequency, productivity-based transit service along major transportation corridors, feeding regional transit service and connecting major district destinations, consistent with adopted transit plans.
- Provide adequate funding to expand transit into a more convenient and attractive travel option.
- Encourage higher density development in strategic locations along corridors that are or could be served by frequent transit.

Driving – Goal:

Ensure driving is a reliable option.

Driving – Objectives:

Connect Loveland New Objectives

- Where possible, create separate travel facilities for bicyclists, pedestrians, and vehicle/truck routes. Where modes need to share corridors, ensure appropriate treatment types are selected for each user.
- Ensure travel time reliability and roadway optimization through improvements like traffic signal retiming and implementing Intelligent Transportation System (ITS) technologies.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Maintain the overall ease of travel as the city grows.
- Provide a connected street network that meets the future needs of the community.
- Use the 2019 Congestion Management Process (CMP) to actively reduce congestion. CMP strategies include Transportation Demand Management and Incident Management programs.
- Close gaps on transportation corridors to help multimodal travelers overcome barriers like waterways, railroads, and I-25.

2. Aligning Transportation and Land Use and Development

Goal:

Ensure transportation and land use decisions are mutually supportive in order to reduce per capita vehicle miles traveled.

Objectives:

Connect Loveland New Objectives

- Coordinate with City of Loveland Development Services to ensure any land use plan revisions, prioritize density where well connected, multimodal transportation options exist or are planned.
- When planning improvements and expansions of the transit network, ensure projects are prioritized in sections of Loveland that are planned for high-density residential or mixed-use.
- Coordinate with City of Loveland Development Services to ensure development standards require that new commercial and residential developments incorporate bicycle, pedestrian, transit, and off-site improvements that support completing the modal networks defined in Connect Loveland.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Coordinate bicycle and pedestrian planning and implementation with other infrastructure projects and land use decisions. Specifically, ensure coordination between land use decisions and the implementation of Connect Loveland.
- Require well-connected streets, pedestrian-friendly block sizes, sidewalks, bike facilities, and connections to existing neighborhoods in new developments and redevelopment areas.

3. Trails and Recreation

Goal:

Ensure that the City's Recreation Trail system serves as both a recreation amenity and a core component of the larger mobility network for people of all ages and abilities.

Objectives:

Connect Loveland New Objectives

- Update the 2014 Parks and Recreation Master Plan to reflect changes in the trail network that have been made since 2014 and identify additional areas for network expansion.
- Identify and determine solutions to barriers and safety concerns for Recreation Trail connectivity and access, including improvements to the City's on-street networks for bicyclists and pedestrians.
- Collaborate with City of Loveland Parks and Recreation Department to seek opportunities for providing additional trail right of way near new developments.
- Improve on-street connections to the Recreation Trail.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Close key gaps in the local and regional trail system, prioritizing access to the Recreation Trail from key destinations, like schools, shopping, parks, recreation centers, and open spaces.
- Emphasize trail access for users inside the City's Growth Management Area. Future connections to regional or statewide trail systems will be done in cooperation with public and private entities.
- Trails will be designed and developed to reflect the character of surrounding corridors, parks, or open lands. The Recreation Trail system will be designed as an off-street, non-motorized, urban recreation trail system that offers bicycle and pedestrian separation where possible.
- Trailheads will be developed where feasible, with priority for locations that are more easily accessible by transit, walking, or biking. New community parks or open lands will include trailheads where these sites connect to the trail system.
- Acquire parkways or greenways for trail development.

4. Environment

Goal:

Develop a multimodal transportation system that protects the natural and built environment while providing access and reducing the overall carbon footprint of Loveland.

Objectives:

Connect Loveland New Objectives

- Prioritize transportation policies and projects that will have positive outcomes for the environment, resiliency, sustainability and the well-being of future generations.
- Play a key role in meeting and exceeding the NFRMPO region's air quality goals by reducing vehicle-miles traveled.
- New transportation projects should complement the management of open lands, minimize wildlife disturbances and provide multimodal access to recreation areas.
- Grow a transportation system that conserves energy and resources by creating reliable walking, biking, and transit networks, while reducing the share of trips taken in single-occupancy vehicles.
- Add infrastructure to support transportation modes that are energy efficient and/or environmentally friendly.

5. Health and Safety

Goal:

Support the physical, social, and mental health of Loveland's community members by developing a safe and connected multimodal transportation network.

Objectives:

Connect Loveland New Objectives

- Encourage active modes of transportation by using national best practices and safety standards for bicycle and pedestrian infrastructure improvements.
- Make using active transportation comfortable through providing a variety of pedestrian amenities such as wayfinding, shade, and benches.
- Create safe and comfortable multimodal connections to the City's Recreation Trail, Recreation Center(s), and Open Lands/Natural Areas.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Implement educational and outreach programs to promote active living and increase bike and pedestrian safety.
- Enforce existing codes and ordinances that require property owners to maintain their sidewalks in good condition.
- Work towards eliminating all traffic-related fatalities and severe injuries by adopting a Vision Zero policy.
- Prioritize pedestrian and cyclist safety when making land use and capital improvement decisions.
- Site new community facilities (such as schools, health services, libraries, and recreational sites) in a way that maximizes mobility options for accessing those amenities.
- Promote traffic calming on local streets through elements such as street trees, detached sidewalks, and other features that reduce traffic speeds while increasing pedestrians' and cyclists' comfort and safety.
- In collaboration with City of Loveland Development Services, promote land use decisions that locate stores offering healthy foods alongside easy-to-access destinations for all community members.
- Ensure the transit, bicycle, and pedestrian network offers connections to health care service providers.

6. Policies and Programs

Goal:

Policies and programs will be developed to reduce vehicle-miles traveled, improve safety, encourage the use of active forms of transportation and reduce single-occupancy vehicle trips.

Objectives:

Connect Loveland New Objectives

- Engage a Transportation Demand Management (TDM) coordinator to help institutionalize TDM programs city-wide by educating area employers on the benefits of TDM.
- Evaluate the feasibility of mandating TDM programs in the future.
- Support motor vehicle, transit, bicycle and pedestrian safety, awareness, and encouragement through education programs for all levels and abilities for bicyclists, pedestrians and motorists.
- Promote the appropriate use of traffic and code enforcement.

- Encourage participation in active modes of transportation through a variety of programs including community events, partnering with schools and employers, and educational materials.
- Research, development, adopt and implement a Local Road Safety Plan in conjunction with other City divisions and departments.
- Implement policies outlined in the 2019 Downtown Parking Plan.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Encourage and support voluntary employer-based TDM programs in the short term.
  Engage in coordinated regional TDM marketing and education campaigns with neighboring communities to ensure workers commuting to and from Loveland have access to non-driving travel options.

7. Implementation/Funding

Goal:

Implement Connect Loveland through a strategy that recognizes current funding realities and limitations and prioritizes projects based on relevant criteria, such as equity, cost-effectiveness, available funding, community values, and health outcomes.

Objectives:

Connect Loveland New Objectives

- Establish a viable and reliable source of funding to fully implement Connect Loveland.
- Create trackable performance metrics for all modes.
- Demonstrate accountability by monitoring performance metrics for each mode and reporting performance to the community annually.
- Integrate multimodal infrastructure improvements and maintenance with ongoing capital improvement projects such as pavement rehabilitation projects.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Balance constructing new infrastructure with maintenance, operations activities, cost, and investment in other modes.
- Maintain transportation infrastructure and facilities to minimize the need for replacement or rehabilitation.
- Consider a range of different funding sources and leveraging opportunities including proactively pursuing grants and state and federal funding available through the NFRMPO, Colorado Department of Transportation (CDOT), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), and by exploring collaborations like Public-Private Partnerships.

8. Equitable Access and Mobility

Goals:

Prioritize transportation infrastructure and networks to meet the needs of populations with limited transportation options and focus on areas and that are currently underserved with transportation options.

Objectives:

Connect Loveland New Objectives

- Ensure recommended projects are informed by comprehensive, neighborhood-level outreach efforts that include meaningful engagement of populations underserved by the current multimodal transportation network.
- Identify dedicated funding for paratransit and non-emergency medical transportation that increase mobility options for older adults and people with disabilities.
- Prioritize transportation projects that bring transit, bicycle, and pedestrian infrastructure into neighborhoods that currently lack mode choice.
- Prior to construction/during CIP planning, develop criteria that will be used to evaluate the benefits and impacts of transportation projects to assess whether vulnerable communities are disproportionately affected or excluded from benefiting from the project.

9. Regional Coordination

Goal:

Loveland will continue to support and collaborate with regional partners to develop a seamless regional multimodal transportation system.

Objectives:

Connect Loveland New Objectives

- Partner with county, region, and state-wide agencies on regional transit, non-motorized corridors, and roadway/transportation projects, policies, and programs.
- Designate a City of Loveland representative to support and engage with the NoCo Bike and Pedestrian Collaborative.

Connect Loveland Objectives Adopted from Previous Planning Efforts

- Anticipate the revenues available to the area through the Federal Highway Administration (FHWA), Federal Transit Administration (FTA) and Colorado Department of Transportation (CDOT) requirements and seek partnerships for pursuing those funds.
- Participate in the North Front Range Metropolitan Planning Organization's (NFRMPO) and CDOT's plans to implement regional transportation projects on major corridors like I-25, US-34, US-287, and SH-402.
- Recommend mitigation measures on congested corridors as required in the Congestion Management Process (CMP).
- Work cooperatively with regional partners to identify opportunities to provide interregional transit connectivity along the Front Range.

10. Innovation

Goal:

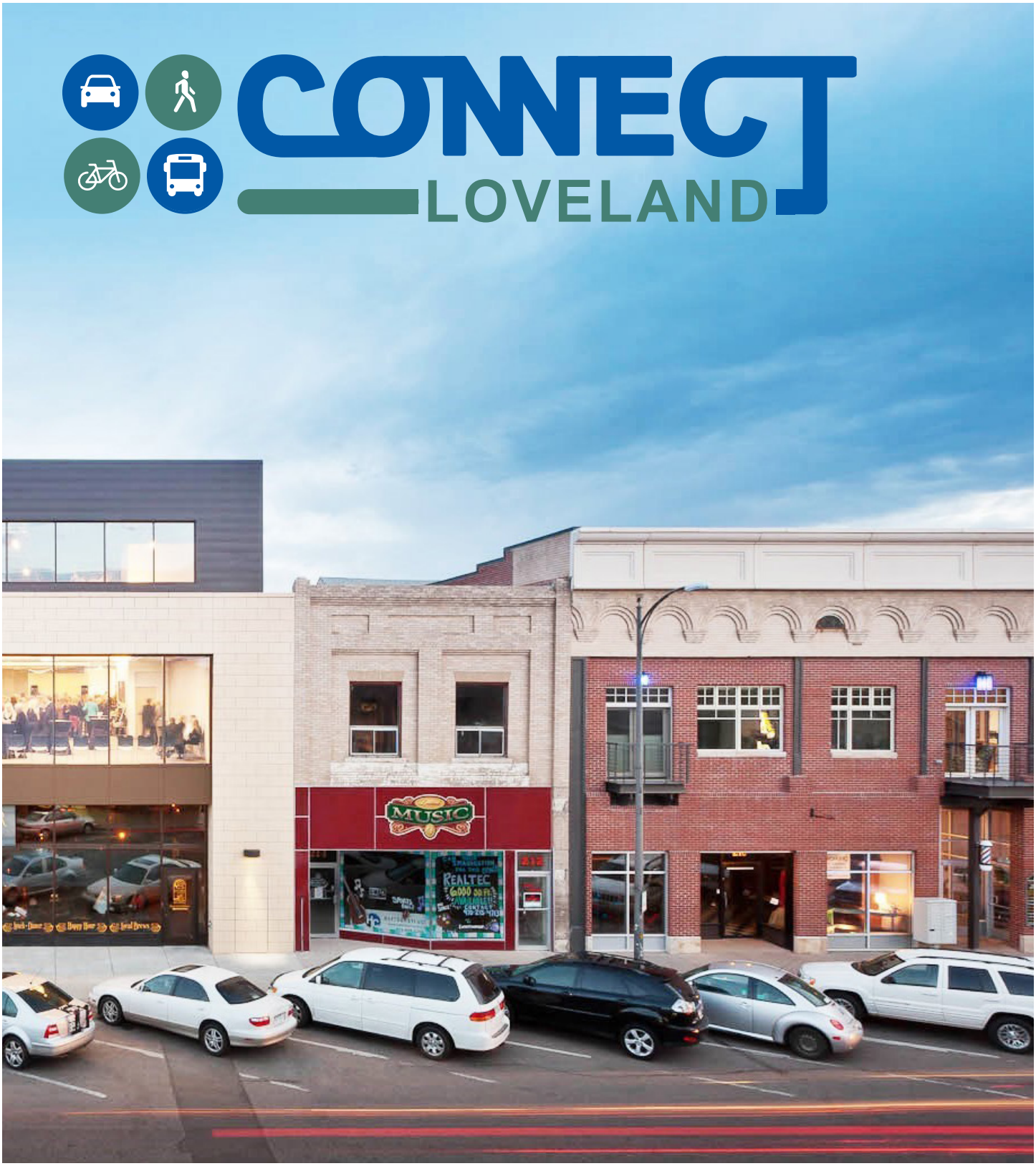
Loveland will build tomorrow's transportation network by constantly exploring and investing in proven technologies that facilitate improved mobility.

Objectives:

Connect Loveland New Objectives

- Ensure City design standards and local policies are flexible and compatible with emerging technologies.
- Ensure Loveland's transportation data is featured on applications that improve access to non-driving modes through features such as transit fare payment or on-demand transportation.
- Plan for infrastructure that will support connected and autonomous vehicles.
- Leverage City resources to facilitate shared mobility options.
- Establish a role within the Public Works Department that tracks innovation initiatives and ensures new technologies, like autonomous vehicles, are incorporated into transportation planning.
- Adopt policies that manage anticipated travel behavior changes due to autonomous vehicles. These could include coordinating with service providers to create first/last-mile connections to transit, prioritizing vehicles shared or operated as a fleet, and by disincentivizing zero-occupancy vehicles.

CONNECT LOVELAND



EXISTING CONDITIONS

FEHR & PEERS | APRIL 2019

City of Loveland

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01 WHERE WE ARE TODAY

Founded along the Colorado Central Railroad and namesake of the Railroad president, the City of Loveland has deep roots as a transportation hub for northern Colorado. Nearly 150 years later, the transportation network in the City has evolved to include major roadways and to host crossroads that serve the mobility and commerce needs of the wider region. Locally, Loveland has enjoyed decades of growth; City boundaries have expanded to form a community that blends historic character with new development.

CONNECT LOVELAND

Connect Loveland, a multifaceted effort to update the City's street network, transit system, and bicycle and pedestrian facilities, must be underpinned by a thorough understanding of the current transportation network and how it serves both Loveland and connects to the surrounding region. This summary, as well as Connect Loveland, addresses all modes operating within the City—vehicles, bicyclists, pedestrians, and transit. This existing conditions summary also details all aspects of the transportation network, including recent shifts in traffic volumes, safety concerns, the existing bicycle and pedestrian network, and transit service as well as demographic indicators, land use trends, and economic data.

The existing conditions summary:

- Highlights where Loveland's transportation system is today by describing the existing multimodal networks
- Identifies opportunities for Loveland to offer improved mobility and access for residents and visitors
- Reviews recent City and regional plans that Connect Loveland will update
- Builds off the established policies, goals, objectives, and public input from recent plans
- Analyzes data of the existing state and historical trends of the transportation system including demographics, employment, land use, bicycle and pedestrian facilities, crashes, transit services, and vehicle performance
- Informs key gaps or inefficiencies

Connect Loveland will build on the analysis of existing conditions, to offer a complete vision for what mobility and accessibility in the City will look like in 2040 along with a roadmap for achieving the planned networks. This summary will be a single chapter in the Connect Loveland final document.

02 EXISTING PLANS AND POLICIES

Connect Loveland will update and build off the recommendations, goals, objectives, and vision set by existing plans for all transportation modes. Connect Loveland will identify accomplishments from previous planning efforts, highlight any actions not yet taken, and provide new opportunities for improving local and regional transportation options in Loveland. These existing Plans also included extensive public outreach and stakeholder engagement efforts in order to establish visions for the community, policies and goals. It is important that Connect Loveland considers and is consistent with the priorities and values identified in these planning efforts while also performing its own comprehensive outreach effort acknowledging that these values evolve over time. The City has also grown and implemented a number of recommendations since the adoption of these plans; Connect Loveland will provide updates that reflect these changes and progression. In order to show the progress made since the adoption of these Plans, Connect Loveland will utilize previously applied performance measures to track implementation and successes for each mode.

A summary of the 2035 Transportation Plan, the 2012 Bicycle and Pedestrian Plan, and the 2009 Transit Plan Update is provided. For each Plan, applications to Connect Loveland are identified, major goals are highlighted, along with recommendations, and proposed performance measures.

In addition, this review of existing plans and policies also summarizes additional local and regional plans, listed below, that have relevance to Connect Loveland:

- 2015 Create Loveland Comprehensive Plan
- 2014 Parks and Recreation Master Plan
- 2009 Transfort Strategic Plan
- 2016 Non-Motorized Plan (NFRMPO)
- 2040 Regional Transportation Plan (NFRMPO)
- 2040 Regional Transit Element (NFRMPO)

2035 TRANSPORTATION PLAN

The 2035 Transportation Plan was adopted in 2012 and served as an update to the 2030 Transportation Plan that had been completed in 2007. The stated goals of this Plan were to: develop policies that recognize the connection between land use and transportation; plan a safe, efficient and continuous multimodal network; develop a transportation plan that respects the physical environment; sustain the economic vitality of the community; balance property access with safety, mobility, and street capacity; maintain acceptable level of service through transportation demand management policies; and consider all reasonable current and future funding sources. Connect Loveland will consider these goals and update them as determined through public outreach and the planning process.

STREETS

The 2035 Plan includes a Street Plan that was assembled with the primary goal of ensuring that any improvements maintain ease of travel while not exceeding an LOS threshold of C (D on State Highways). The Plan sought to achieve this goal by proposing new streets, widening some existing streets, adding through lanes, and adding both center and intersection turn lanes (**Figure 1**). In addition, the Plan recommended more funding for the Pavement Management Program in order to maintain a state of good repair on existing and new facilities.

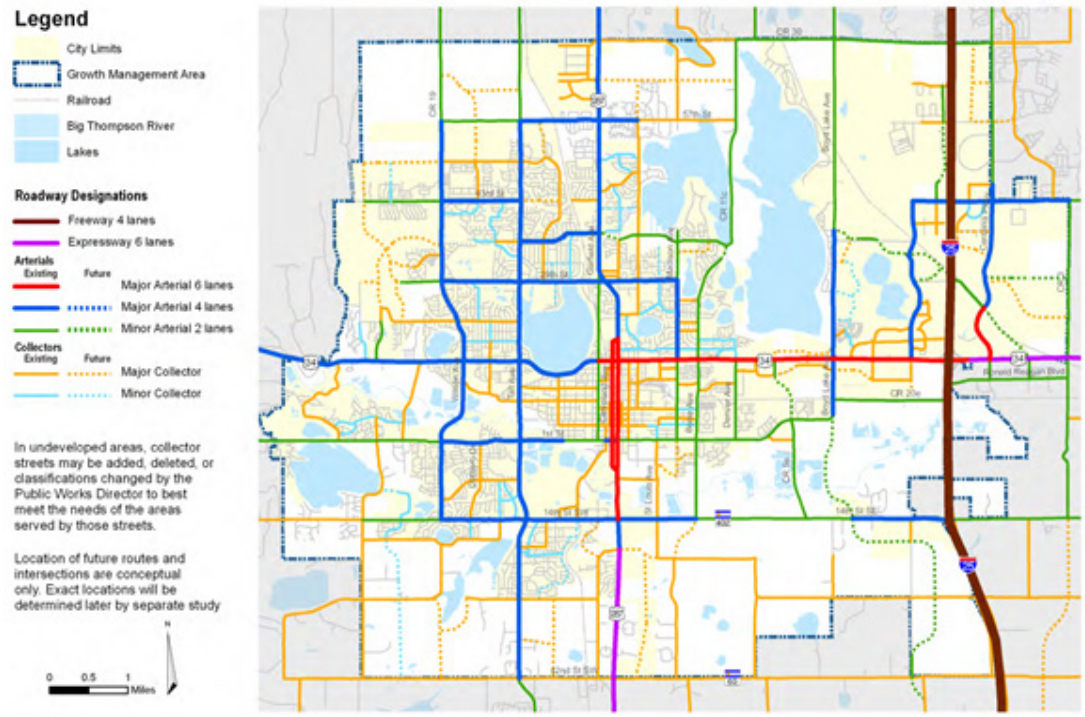


Figure 1. 2035 Loveland Street Plan

MULTIMODAL

The 2035 Transportation Plan primarily refers to the recommendations for additional services and facilities made in the 2009 Transit Plan and 2012 Bicycle and Pedestrian Plan.

EVALUATION

The 2035 Transportation Plan listed performance measures that could be used to evaluate progress towards achieving Plan goals. Performance measures were divided into evaluations for Intelligent Transportation Systems, Travel Demand Management, Transit, Bicycle/Pedestrian improvements, and Street Maintenance. Connect Loveland will work to apply these performance measures as closely as possible, to track progress consistently and transparently over time.

The 2035 Plan applied the following measures to track:

- Overall progress (such as total lane miles, average travel times, total traffic signals)
- Intelligent Transportation (such as total signals served with fiber, visual camera data stations)
- Travel Demand Management (such as SmartTrips participation, vehicle miles avoided)
- Transit (such as passenger ridership, cost per trip, fare revenue)
- Bike/pedestrian (such as total bike facilities, gaps in system percentage, total pedestrian facilities)
- Street maintenance (such as cost per mile to maintain, cost per mile to construct)

2012 BICYCLE AND PEDESTRIAN PLAN

The Loveland 2012 Bicycle and Pedestrian Plan was undertaken to foster quality of life improvements, increase access to transportation for non-drivers, meet latent demand for walking and biking, leverage Loveland's favorable weather and topography, providing better access to a low-cost transportation, and improving economic vitality. Planning efforts were geared towards achieving the following plan goals:

- Provide a safe multimodal network to access destinations.
- Fill in the missing bicycle and pedestrian segments and provide for safe intersection crossings.
- Design and develop a "complete streets" bicycle and pedestrian system that adheres to local, state and national codes.
- Instill bicycle and pedestrian safety, awareness and encouragement through education programs for all levels and abilities for bicyclists, pedestrians and motorists, and promote the appropriate use of traffic and code enforcement.
- Develop a sustainable and reliable source of bicycling and pedestrian funding.

With these goals, the proposed bicycle and pedestrian networks shown in **Figures 2** and **3** were developed.

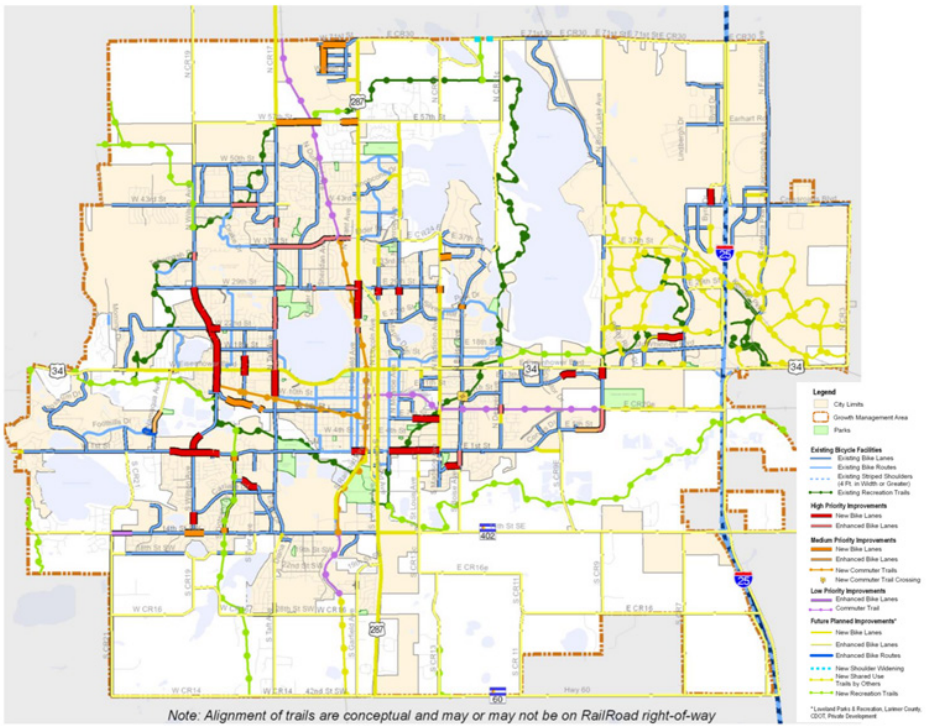


Figure 2. Loveland 2012 Proposed Bicycle Facility Network

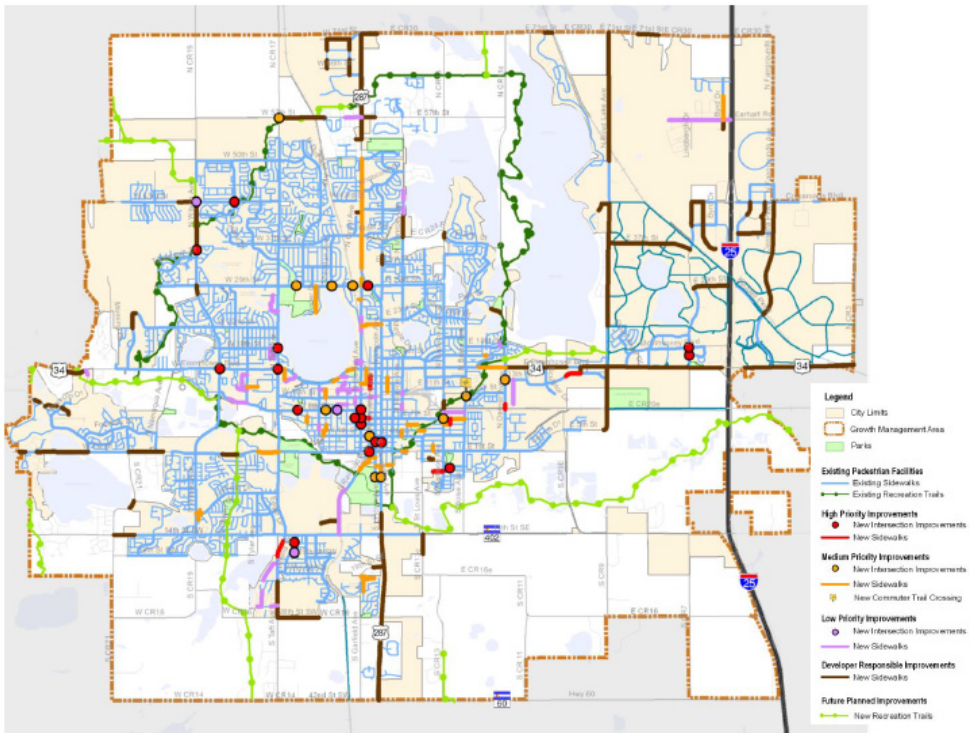


Figure 3. Loveland 2012 Proposed Pedestrian Facilities

In addition to a list of projects, the plan included the following policy recommendations for achieving improvements in the bicycle and pedestrian networks:

1. Code enforcement – by emphasizing enforcement of existing rules, like requiring new developments provide bicycle and pedestrian facility improvements, Loveland can ensure that ongoing efforts to improve multimodal facilities are successful.

2. Coordination – With the 2009 reorganization of the Loveland Public Works Department, a Bicycle and Pedestrian Program Manager position was added. This individual was to be responsible for ensuring bicycle and pedestrian projects came to fruition and was also to be responsible for coordinating planning efforts with other local, regional, and state agencies.

3. Beyond just providing new bicycle and pedestrian facilities, the plan called for placing greater emphasis on the 5 E's: Engineering, Education, Enforcement, Encouragement, and Evaluation.

To evaluate progress on plan goals, the following performance measures were slated to be tracked by the Public Works Department:

- Total bicycle facilities
- Percent change in bicycle facilities
- System missing link percentage
- Total pedestrian facilities
- Percent change in pedestrian facilities
- Percent pedestrian facilities that are ADA-compliant

Connect Loveland will update the 2012 Bicycle and Pedestrian Plan by considering updating goals, policies, and performance measures. It will also determine the facilities implemented since the 2012 Plan in order to inform recommendation and priorities for creating low-stress and connected bicycle and pedestrian networks moving forward.

2009 TRANSIT PLAN UPDATE

The 2009 Transit Plan process was a partnership effort between City of Loveland Transit (COLT), Transfort (the City of Fort Collins transit provider), and the Poudre School District to update the 2004 COLT Transit Plan. The Plan identified five goals:

1. Develop an expanded transit system focused on productivity and performance to serve the Loveland area.

2. Provide enhanced mobility for seniors, youth, disabled, and transit dependent.

3. Develop a public transportation system that reduces roadway related costs for maintenance, right-of-way acquisition, and construction.

4. Provide funding recommendations to fully implement the Transit Plan update.

5. Stimulate the local economy through investment in public transportation infrastructure and operations.

Three phases for transit improvements were recommended. The recommendations highlighted a need to improve both local and regional service by adding routes, facilities, and expanding service span (**Figure 4**). The 2009 Transit Plan included capital and operating expense needs to fulfill the

recommendations of each phase. The implementation timeline was envisioned to take place over seven years and to be monitored using trend analyses and peer system comparisons. The following measures would be used to analyze trends:

- Vehicle hours of service operated
- Vehicle miles of service operated
- Passenger boardings or unlinked trips
- Passenger fares collected
- Operating expenses
- Maintenance road calls
- Incidents
- Passenger complaints

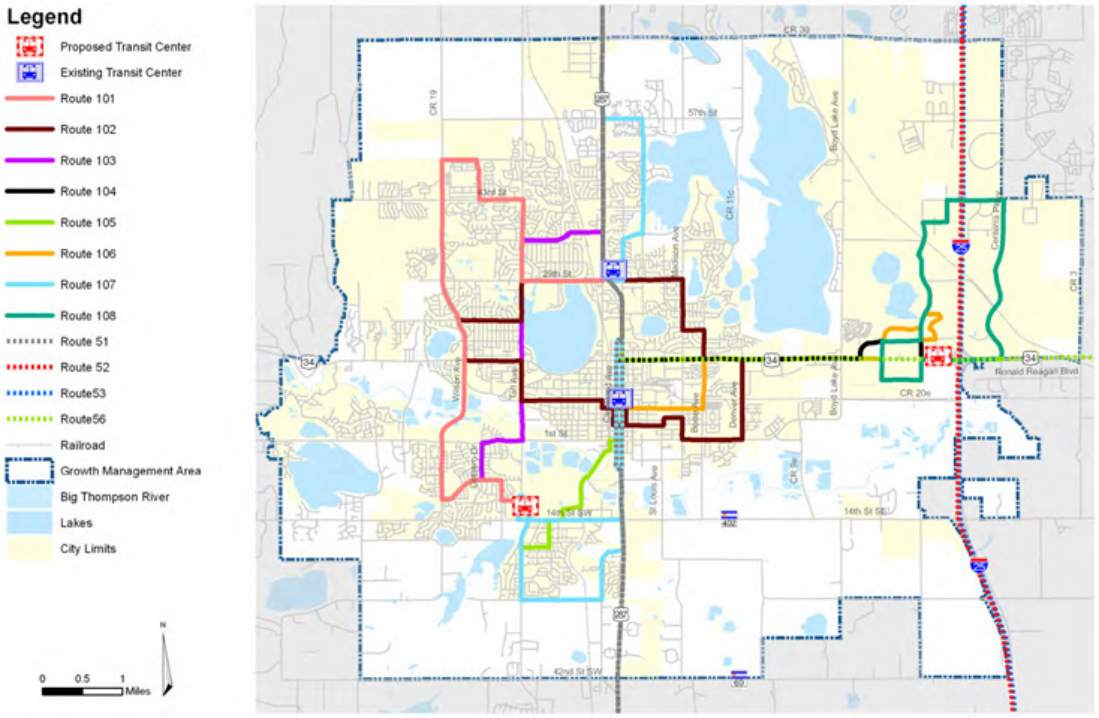


Figure 4. Three phases of improvements in the 2009 Transit Plan Update

A lot has changed in the local and regional transit system over the last decade. Connect Loveland will reassess goals, performance measures, and recommended service improvements in the context of new regional routes, emerging mobility options, and growth of the community.

2015 CREATE LOVELAND COMPREHENSIVE PLAN

The 2015 Comprehensive Plan, entitled "Create Loveland," considered all aspects of community living in the City of Loveland and was divided into nine plan elements that collectively advance land use practices, planning for strategic areas, market-supported development opportunities, health and safety of the built environment, and a City that is resilient and fiscally successful. Three of the elements, "A Commitment to a Downtown Renaissance," "Revitalize our Corridors and Gateways," and "Create a Connected and Accessible Community" all have supporting policies that involve the transportation network.

The policies that are most closely related to the Connect Loveland planning effort are listed below. These policies are applied to Connect Loveland by informing recommendations and priorities of transportation infrastructure programs and policies.

1. Plan a safe, efficient, coordinated and convenient multimodal transportation system.

2. Provide infrastructure to make walking and bicycling convenient and viable for all types of trips and for all ages, abilities, and income levels.

3. Make the COLT bus system a convenient, efficient and functional choice.

4. Establish and maintain convenient connections between neighborhoods and to local destinations.

5. Establish a sustainable financing foundation for a transportation system that provides dependable mode options with the ability to accommodate Loveland's growth.

There is deep connection between land use and transportation. It is important therefore that Connect Loveland refers to Create Loveland to ensure that the transportation network adequately serves area of growth and instills a focus on community vitality, safety, health, and equity.

2014 PARKS AND RECREATION MASTER PLAN

The 2014 Parks and Recreation Master Plan effort provided a framework for the growth, management, and development of parks, open lands, public grounds, golf courses, recreation facilities, trails, and programs. An analysis of community desires for parks and recreation facilities found certain concerns that overlap with transportation planning efforts:

- Loveland provides fewer trails and pathways than Fort Collins, Longmont, and Boulder
- The community needs an additional 75 miles of trails to support recreation, connectivity, and better access to City parks and community destinations

As a result, the Parks and Recreation Master Plan identified an interconnected trail system that moves beyond the single loop trail towards creating a trail network that provides local and regional access as a key policy initiative. The Master Plan includes a list of policies for advancing trail access like establishing service level guidelines for trails provision (one mile of hard-surfaced trails for every 3,000 residents and one mile of soft-surfaced trails for every 5,000 residents) and constructing trail underpasses at all state/federal highways within the City. Recommendations in Connect Loveland work to reach the targets identified in this Plan, as well as to create a multimodal network

that provides comfortable access to parks and on-street connections to trails.

2009 TRANSFORT STRATEGIC PLAN

Done in collaboration with the City of Loveland Transit agency, the City of Fort Collins Transfort Strategic Plan represented a coordinated effort to update the 2002 Transfort Strategic Operating Plan. Development of the Plan was guided by six goals:

1. Develop an expanded transit system focused on productivity and performance to meet the Transportation Master Plan and City Plan Policies.

2. Meet and exceed the 2008 Climate Action Plan Goal for Transportation CO2 reductions by 2020.

3. Provide enhanced mobility for seniors, youth, disabled, and transit dependent.

4. Develop a public transportation system that reduces roadway related costs for maintenance, right-of-way acquisition, and construction.

5. Provide funding recommendations to fully implement the Transit Strategic Plan.

6. Stimulate the local economy through investment in public transportation infrastructure and operations.

The Transfort Plan shares the same goals as the 2009 Loveland Transit Plan Update, with the added goal of meeting the Fort Collins Climate Action Plan goal for reducing carbon dioxide emissions. Recommended regional transit connections identified in the Loveland 2009 Transit Plan Update are also included in the 2009 Transfort Strategic Plan.

Fort Collins City Council approved an update to the Transfort Strategic Operating Plan and the proposed Transit Plan Update is scheduled to go before City Council for approval in April 2019. If approved, there will be a new set of recommended Transfort service updates that may impact Loveland and should be considered in the Connect Loveland process.

2016 NON-MOTORIZED PLAN (NFRMPO)

The North Front Range Metropolitan Planning Organization (NFRMPO) Non-Motorized Plan, a federally required Regional Transportation Plan, provides a summary of the existing bicycle and pedestrian facilities, design standards, and data in the region. This Plan calls out the 12 Regional Bicycle Corridors, six of which have segments in Loveland. The identified Big Thompson River Trail, Great Western Railroad and rail to trail, the North Loveland/Windsor network, Front Range Trail, Little Thompson River Trail, and the US-34 Trail provide important, key regional connections. They are backed politically and some corridors have dedicated funding sources. In addition to these regional corridors, this plan identifies potential funding sources, equity considerations, and emerging technology and trends in the region.

Connect Loveland should build on these recommendations by working to implement regional trail connections as well on-street facilities that provide comfortable access to these trails.

2040 REGIONAL TRANSPORTATION PLAN (NFRMPO)

The North Front Range Metropolitan Planning Organization (NFRMPO) Regional Transportation Plan serves as one of the 15 federally required Regional Transportation Plans in Colorado. It is the transportation plan for the cities of Evans, Fort Collins, Greeley, and Loveland; the towns of Berthoud, Eaton, Garden City, Johnstown, LaSalle, Milliken, Severance, Timnath, and Windsor; and portions of unincorporated Larimer and Weld counties.

The Plan has four main goals:

1. Foster a transportation system that supports economic development and improves residents' quality of life.

2. Provide a transportation system that moves people and goods safely, efficiently, and reliably.

3. Provide a multimodal system that improves accessibility and transportation system continuity.

4. Optimize operations of transportation facilities.

The Plan includes recommendations that have impacts on Loveland including changes to I-25, US-34, US-287, and improved regional trail connections that serve Loveland, specifically the Big Thompson River trail.

2040 REGIONAL TRANSIT ELEMENT (NFRMPO)

As part of the broader Regional Transportation Plan effort, the NFRMPO also develops a Regional Transit Element. The 2040 Transit Element identified nine corridors for future transit service. The following projects would directly impact Loveland:

- Regional bus route between Loveland and Greeley along US-34
- New Bustang route along US-34 through Loveland
- Commuter rail line along I-25 between Fort Collins and Longmont that would serve Loveland


EXIT 255
WEST
402
Loveland
1 MILE

03 DEMOGRAPHIC CONDITIONS AND TRENDS

DEMOGRAPHIC TRENDS

Demographic and housing conditions and trends are summarized in this section to understand the composition of the City's resident base and how recent trends may impact transportation needs. The major demographic findings are:

- The City of Loveland grew in population significantly over the past 40 years, increasing by an average of 1,260 residents per year since 1980. While population growth in the past 10 years has been steady, it has not matched the rate of new residents per year as experienced in the 1990s and early 2000s.

- The composition of the City's population and households has shifted since 2000. The City's residents are now much older on average, and are also older than the Countywide population average. The number of family households and households with children have decreased significantly over this time.

- The composition of the City's housing stock has not changed as much as the household and family composition. The mix of housing types has only changed slightly, with an increase in attached and multifamily housing units. While the mix of new residential construction has become more evenly split between single family and multifamily since 2010, there has been a concurrent decrease in attached housing development.

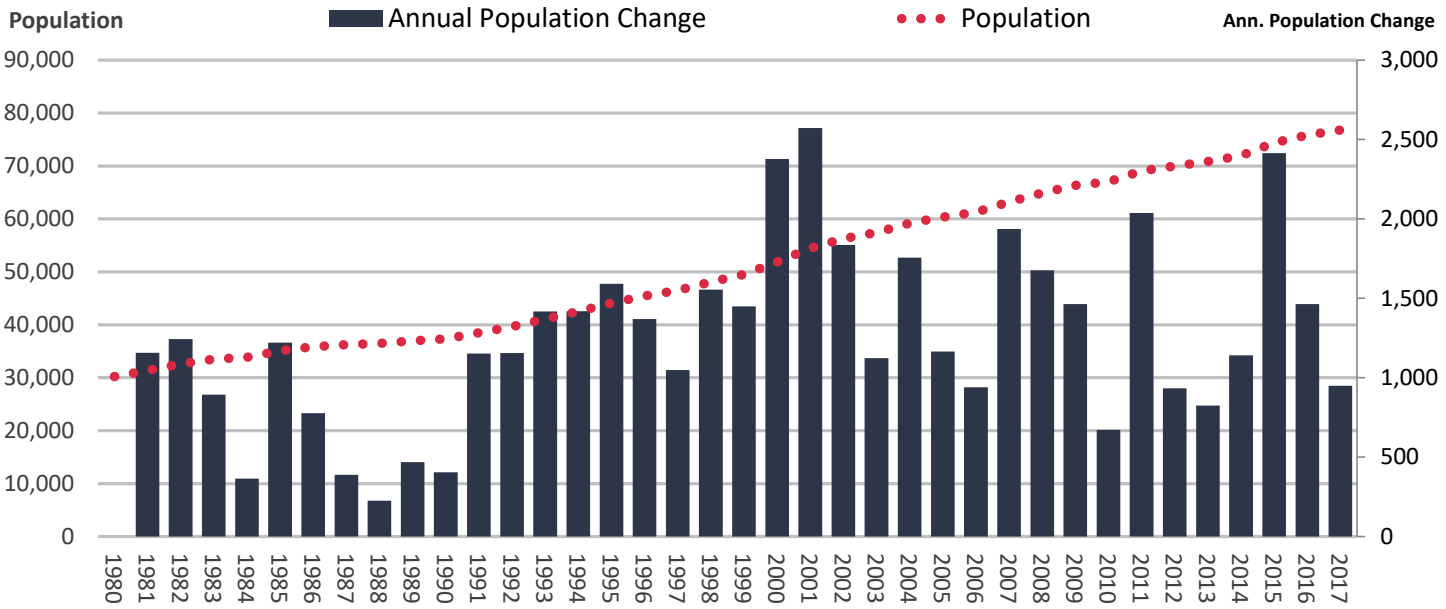
POPULATION AND HOUSEHOLDS

The City of Loveland has a population of 76,700 residents and continues to grow steadily. The City's

population has increased by 46,580 since 1980 - an average of 1,260 new residents per year. The largest period of population growth for the City over this time occurred in the 1990s and early 2000s, as shown in **Figure 5.**

The City of Loveland accounts for 22 percent of Larimer County's population, as shown in **Table 1.** Loveland's share of the County population has remained consistent over the past two decades; however, the City has captured a greater share of County households over this time. The City now has 25 percent of all County households, an increase from 20 percent in 2000. Since 2000, Loveland has captured 28 percent of the population growth and 36 percent of household growth in the County. The City's population has grown at an annual rate of 1.9 percent since 2010, a decrease from the 2.5 percent growth rate from 2000 to 2010. Current annual growth in the City matches the County's rate of 1.9 percent.

LOVELAND POPULATION, 1980 TO 2017



Source: CO State Demographer

Figure 5. Loveland Population, 1980 to 2017

LOVELAND POPULATION AND HOUSEHOLDS, 2000 TO 2017

	2000	2010	2017	Change 2000-2017 Total	Change 2000-2017 Ann.#	Change 2000-2017 Ann. %	Change 2010-2017 Total	Change 2010-2017 Ann.#	Change 2010-2017 Ann. %
Population									
Loveland	50,608	67,100	76,702	26,094	1,535	2.5%	9,602	1,372	1.9%
Larimer County	251,494	300,637	343,976	92,482	5,440	1.9%	43,339	6,191	1.9%
% of County	20%	22%	22%	28%			22%		
Households									
Loveland	19,741	27,153	33,384	13,643	803	3.1%	6,231	890	3.0%
Larimer County	97,164	123,581	134,709	37,545	2,209	1.9%	11,128	1,590	1.2%
% of County	20%	22%	25%	36%			56%		

Source: US Census Decennial Census and ACS 1-Year; Economic & Planning Systems

Table 1. Larimer County and Loveland Population and Households, 2000 to 2017

INCOME

The average household income in the City of Loveland is $73,834, lower than the Countywide average of $89,304. The median household income in the City is shown in **Figure 6.**

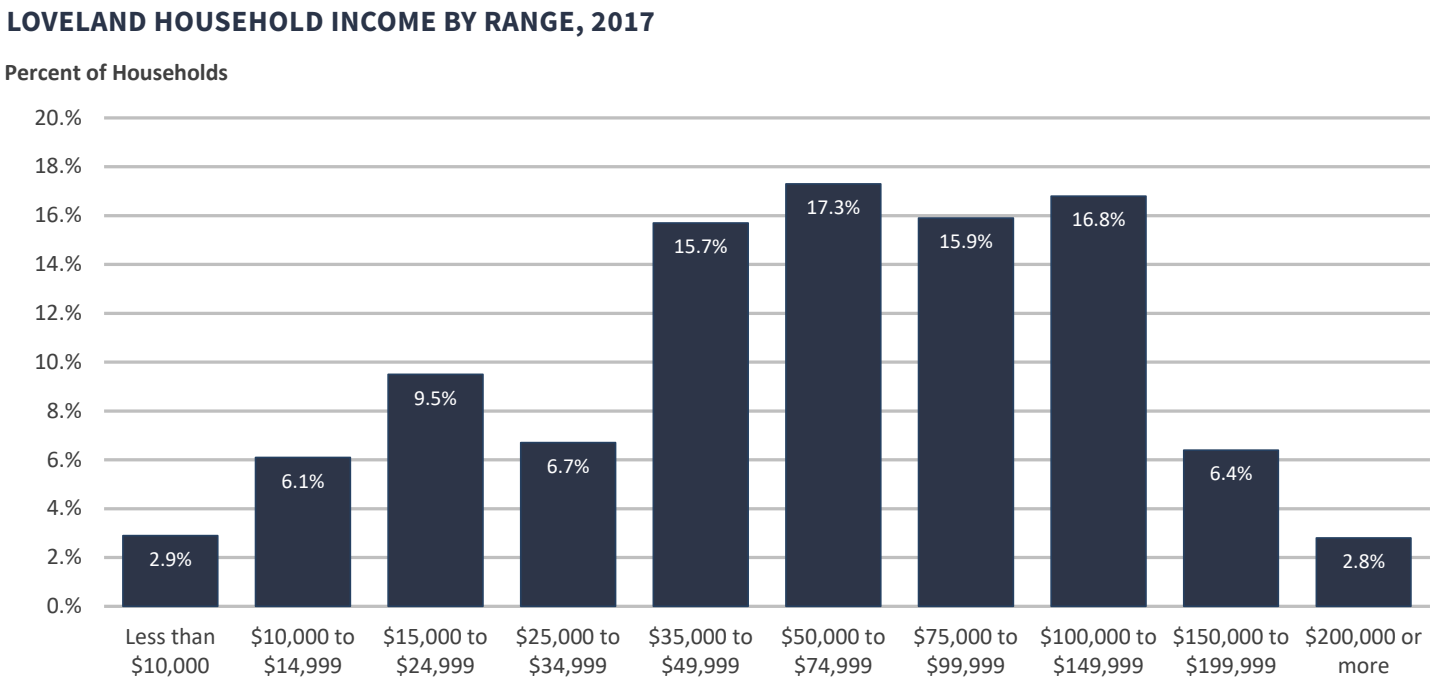
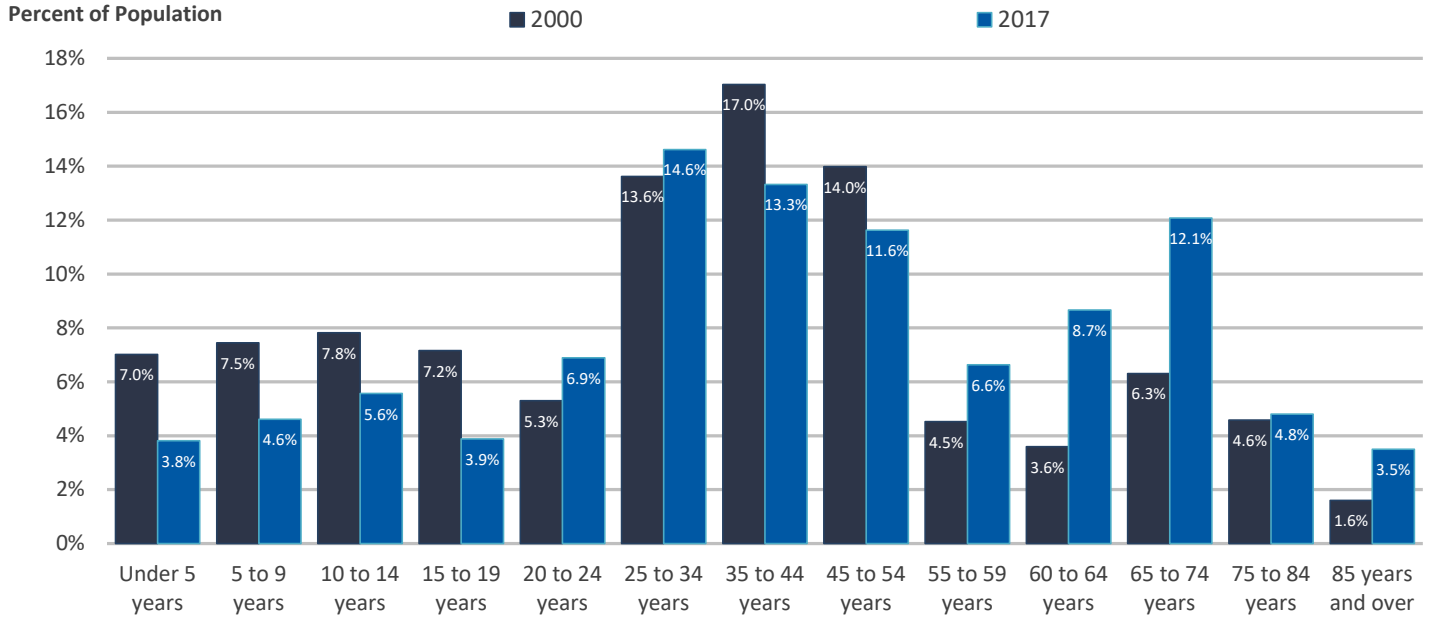


Figure 6. Loveland Household Income by Range, 2017

AGE

The age of Loveland's residents has shifted significantly since 2000. The median age of residents in Loveland today is 43 years; in 2000, the median age was 36 years. Compared to 2000, the City of Loveland has significantly fewer residents under the age of 24 (25 percent of the population today, compared to 35 percent in 2000), and has experienced a similar increase in residents age 45 to 75 years old (39 percent today compared to 28 percent in 2000), as shown in **Figure 7** on the next page.

LOVELAND AGE BY RANGE, 2000 TO 2017



Source: U.S. Census; Economic & Planning Systems

Figure 7. Loveland Age by Range, 2000 to 2017

HOUSING TRENDS

Housing patterns have substantial influence on how people travel. Higher population-density areas that add housing quickly experience different impacts on the transportation network than rural areas. Household composition also makes a difference; non-family households make direct trips from home to their destination, while families need to take trips that involve multiple destinations. Examining housing trends in Loveland can help inform decisions that will be made about transportation during the Connect Loveland process. The City of Loveland had a slightly higher percentage of renter households in 2017 than in 2000, with this figure increasing modestly from 31 percent in 2000 to 33 percent in 2017, as show in Figure 8. Owner-occupied households still represent the majority of households in Loveland.

LOVELAND HOUSING TENURE, 2000 TO 2017

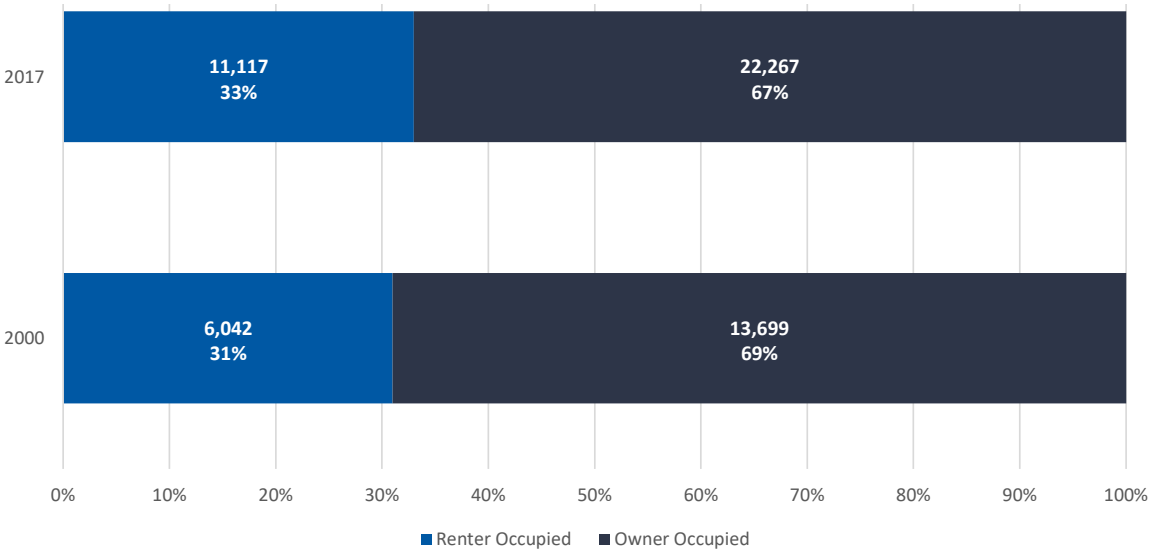


Figure 8. Loveland Housing Tenure, 2000 to 2017

HOUSING COMPOSITION

The average household size in the City of Loveland has decreased significantly since 2000. The average household size was 2.55 persons per household in 2000 and has decreased to 2.28, as shown in **Table 2**. In 2000 the City had a larger average household size than the County, however the average household size in Loveland is now lower than the County average size of 2.48.

LOVELAND HOUSEHOLD SIZE, 2000 TO 2017

Description	2000	2017
Loveland	2.55	2.28
Larimer County	2.52	2.48

Source: US Census; Economic & Planning Systems

Table 2. Loveland Household Size, 2000 to 2017

The split between family and non-family households in Loveland has changed over the past 17 years. In 2000, 71 percent of households were considered family households (2 or more related people in same household). This percentage has decreased to 60 percent, as shown in **Table 3.**

LARIMER COUNTY AND LOVELAND HOUSEHOLD COMPOSITION, 2000 TO 2017

Description	2000		2017		2000-2017 Total	2000-2017 Ann. #	2000-2017 Ann. %
Loveland							
Family Households	14,037	71%	19,907	60%	5,870	345	2.1%
Non-Family Households	5,704	29%	13,477	40%	7,773	457	5.2%
Households with Individuals under 18	7,377	37%	6,578	20%	-799	-47	-0.7%
Larimer County							
Family Households	63,197	65%	80,859	60%	17,662	1,039	1.5%
Non-Family Households	33,967	35%	53,850	40%	19,883	1,170	2.7%
Households with Individuals under 18	32,451	33%	32,091	24%	-360	-21	-0.1%

Source: US Census; Economic & Planning Systems

Table 3. Larimer County and Loveland Household Composition, 2000 to 2017

The mix of housing in the City of Loveland has changed slightly since 2000. Multifamily and single family attached housing units now make up a slightly greater share of the overall housing mix, accounting for 31 percent of all housing units compared to 27 percent in 2000, as shown **Table 4.** Examples of attached housing units are apartment style homes where multiple households have adjoining walls. This contrasts with detached housing, which is a single home on a parcel of land. The housing mix in Loveland is similar to the overall mix in the County.

LARIMER COUNTY AND LOVELAND HOUSING STRUCTURE BY UNITS, 2000 TO 2017

Description	2000		2017		2000-2017 Total	2000-2017 Ann. #	2000-2017 Ann. %
Loveland							
Single Family Detached	14,250	70%	24,290	67%	10,040	591	3.2%
Single Family Attached	2,244	11%	4,577	13%	2,333	137	4.3%
Multifamily (3+ units)	3,303	16%	6,698	19%	3,395	200	4.2%
Mobile Home, Boat, RV, Van, etc.	524	3%	614	2%	90	5	0.9%
Total	**20,321**	**100%**	**36,179**	**100%**	**15,858**	**933**	**3.5%**
Larimer County							
Single Family Detached	69,824	66%	100,652	68%	30,828	1,813	2.2%
Single Family Attached	9,557	9%	12,944	9%	3,387	199	1.8%
Multifamily (3+ units)	19,450	18%	28,610	19%	9,160	539	2.3%
Mobile Home, Boat, RV, Van, etc.	6,561	6%	6,346	4%	-215	-13	-0.2%
Total	**105,392**	**100%**	**148,552**	**100%**	**43,160**	**2,539**	**2.0%**

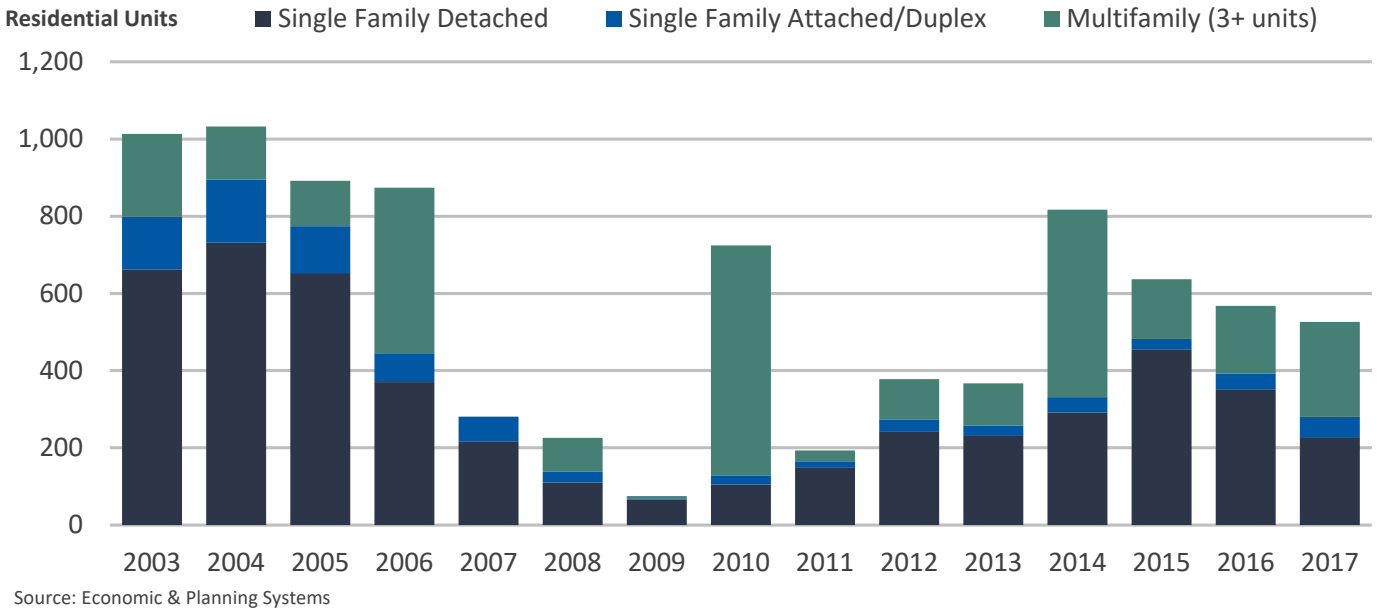
Source: US Census; Economic & Planning Systems

Table 4. Larimer County and Loveland Housing Structure by Units, 2000 to 2017

HOUSING DEVELOPMENT TRENDS

Housing development in Loveland decreased significantly in 2007 due to the national economic recession, as shown in **Figure 9**. Housing construction has increased since 2014, but sill significantly less than experienced prior to 2007. Single family homes have accounted for 57 percent of the permitted units in the City of Loveland since 2003. Despite recent recovery, the rate of housing development in the City is still lower than the rate experienced in the early 2000s. From 2003 to 2006 the City of Loveland permitted an average of over 950 units per year, however since 2014 the average has been only 637 units per year.

RESIDENTIAL BUILDING PERMITS, 2003 TO 2017



Source: Economic & Planning Systems

Figure 9. Residential Building Permits, 2003 to 2017

04 EMPLOYMENT CONDITIONS AND TRENDS

The economic and employment conditions and recent trends in the City of Loveland and Larimer County are summarized below. The major findings from analysis of the economic base, employment trends, and non-residential development trends are:

- The Larimer County economy is growing at a strong rate. Larimer County has added nearly 5,000 jobs per year since 2010. The amount of annual job growth is greater than that experienced in the 1990s.

- Loveland is a major retail and health care hub serving northern Colorado. Employment is in these industries is growing at greater rates than other industries. Loveland also has a large concentration of manufacturing jobs.

- The I-25 Corridor has become the center of economic activity within the Larimer and Weld County region. The portions of Loveland along I-25 have become a major economic center for the northern Colorado region. The intersection of I-25 and US-34 has become a major attractor of retail and industrial space as the area is the most attractive location for businesses serving the region. The region has increased in logistics and distribution-oriented uses and development types as the region. The I-25 corridor provides the major link between communities and has attracted more development activity. Northern Loveland has also attracted additional industrial and retail development serving both the Loveland and Fort Collins communities.

REGIONAL ECONOMIC BASE

The Fort-Collins-Loveland Metropolitan Statistical Area (MSA) had 173,000 jobs as of the end of 2018. Employment in the MSA (which consists of Larimer County) has grown quickly at 3.3 percent annually since 2010, adding nearly 5,000 jobs per year over this time as shown in **Figure 10**. While the rate of employment growth from 2010 to 2018 is lower than the MSA experienced in the 1990s, the annual amount of new jobs added to the MSA over this time is greater than job growth in the 1990s. Employment growth has outpaced housing growth in the County since 2010, indicating that employees of new jobs are living outside of the County .

FORT COLLINS-LOVELAND MSA EMPLOYMENT CHANGE, 1990 TO 2018

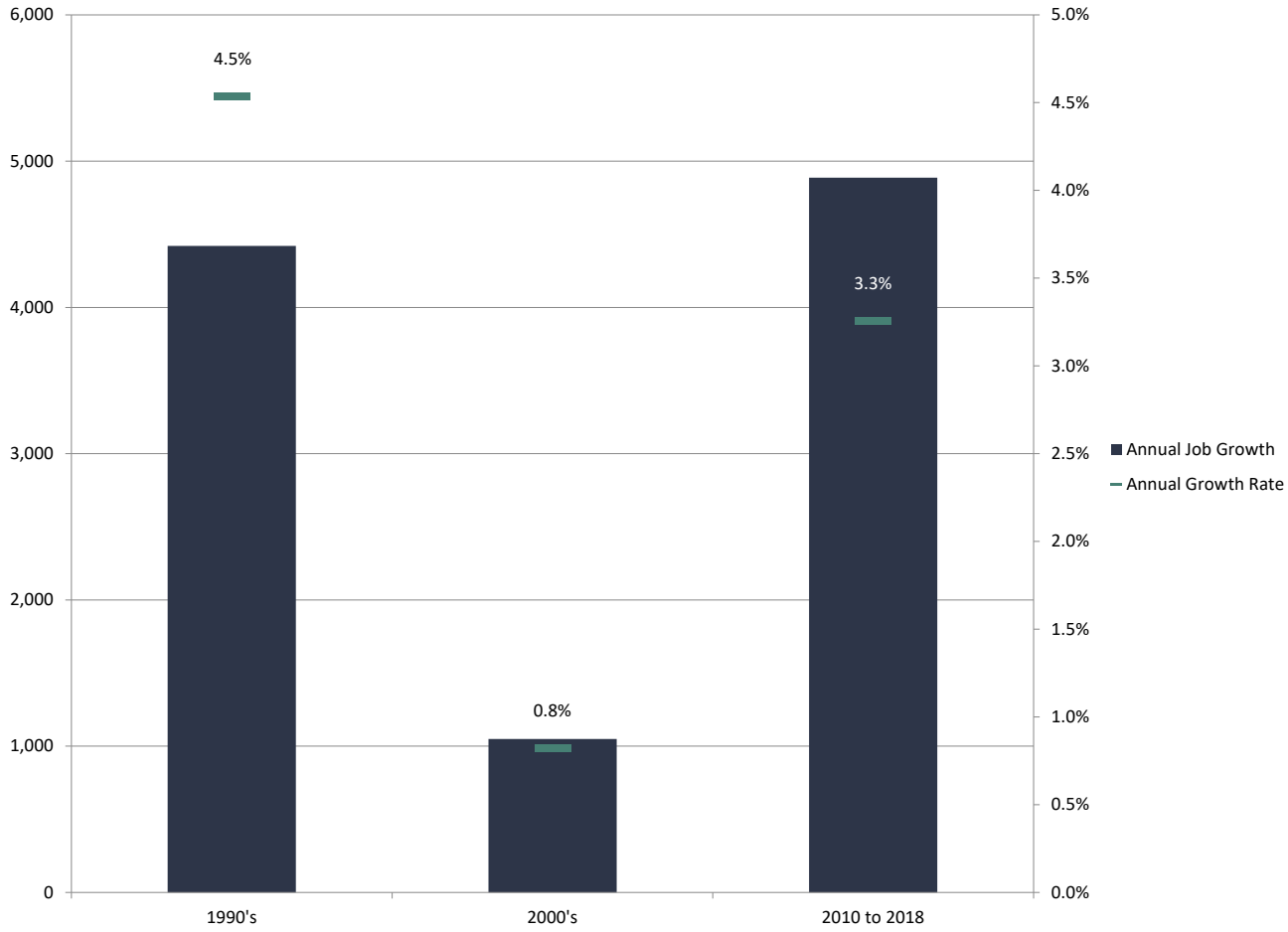


Figure 10. Fort Collins-Loveland MSA Employment Change, 1990 to 2018

The largest employment industries in the MSA are health care, retail trade, accommodations and food service, education, and manufacturing, as shown in **Figure 11** on the next page. The Fort Collins and Loveland area is a major health care, retail, and service hub for northern Colorado and southern Wyoming.

FORT COLLINS-LOVELAND MSA PERCENT EMPLOYMENT BY INDUSTRY

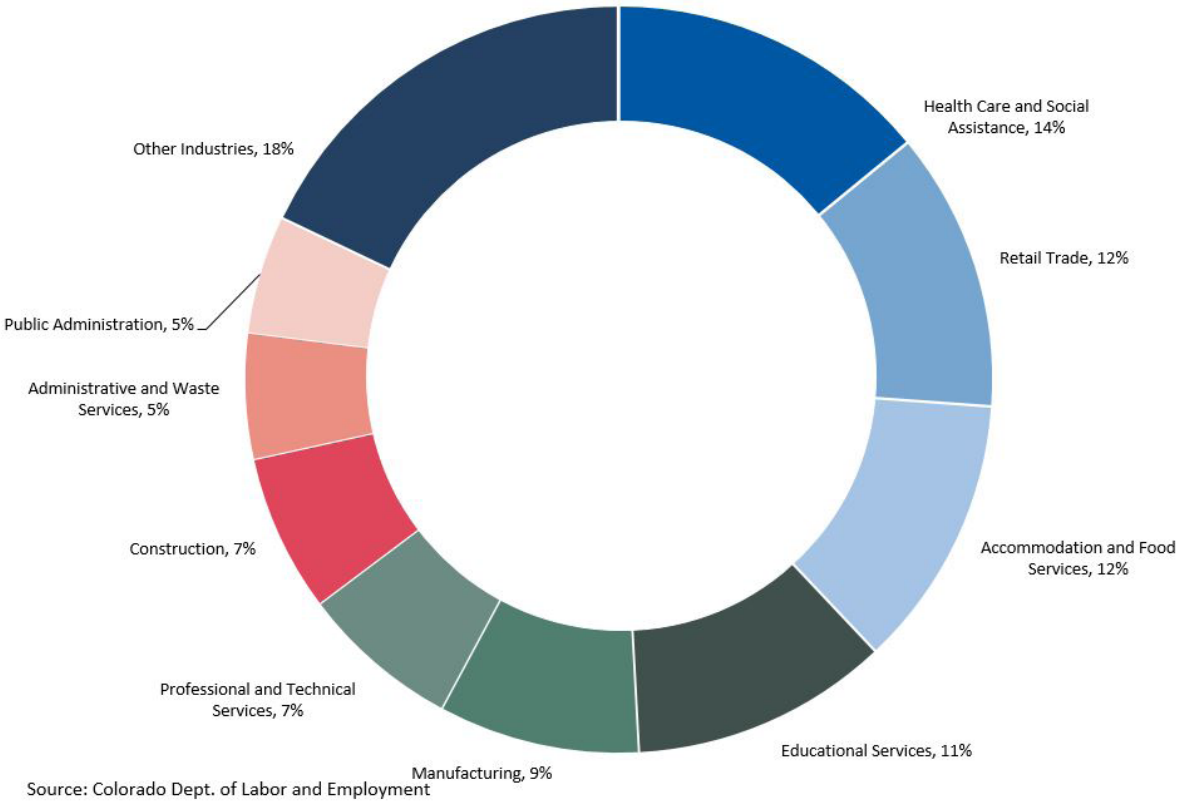


Figure 11. Fort Collins-Loveland MSA Percent Employment by Industry

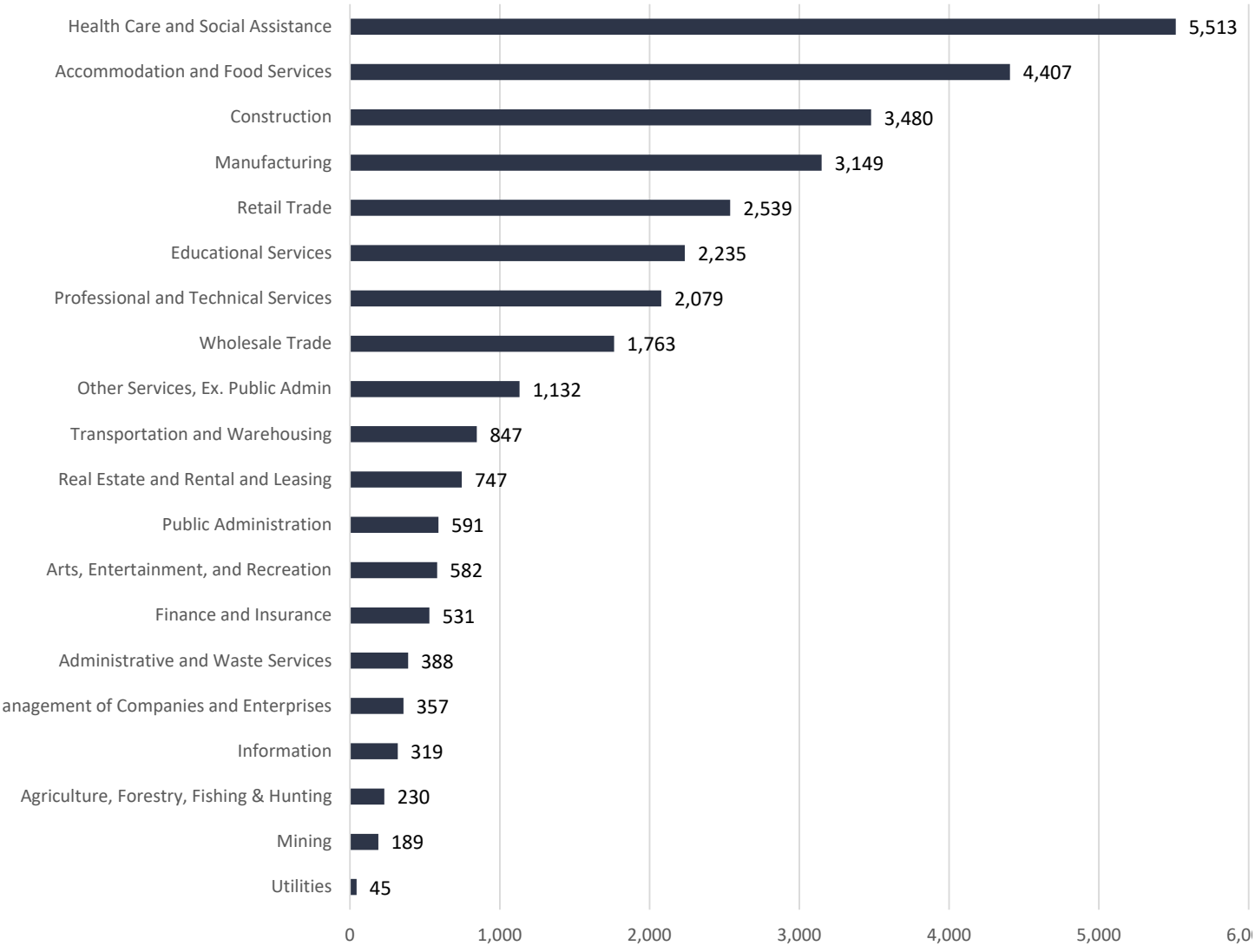
The average annual wage in Larimer County was $50,236 in 2017. The economic base in the County has relatively evenly distributed wages. The average annual wages of the County's major industries are shown in **Figure 12.**

FORT COLLINS-LOVELAND MSA AVERAGE ANNUAL WAGES BY INDUSTRY, 2017

Figure 12. Fort Collins-Loveland MSA Average Annual Wages by Industry, 2017

The change in employment by industry in Larimer County from 2010 to 2017 is shown in **Figure 13**. The health care industry grew the most since 2010, adding over 5,500 new jobs. There was continued growth in the retail and service sectors (retail trade and accommodations and food service), with these two sectors combined adding nearly 6,950 new jobs.

LARIMER COUNTY EMPLOYMENT CHANGE BY INDUSTRY, 2010 TO 2017



Source: Colorado Dept. of Labor and Employment

Figure 13. Larimer County Employment Change by Industry, 2010 to 2017

LOVELAND ECONOMIC BASE

Loveland's employment base is similar to the larger Larimer County economy. Retail trade and health care are the largest industries and each account for 15 percent of employment in the City, as shown in **Figure 14.** These industries are anchored by large concentrations of employment along I-25 developed over the past 10 years including the UC Health Hospital and Shops at Centerra regional shopping center. Manufacturing and Accommodation and Food Services are the next largest industries in the City, each accounting for 11 percent of total employment.

CITY OF LOVELAND PERCENT EMPLOYMENT BY INDUSTRY, 2018

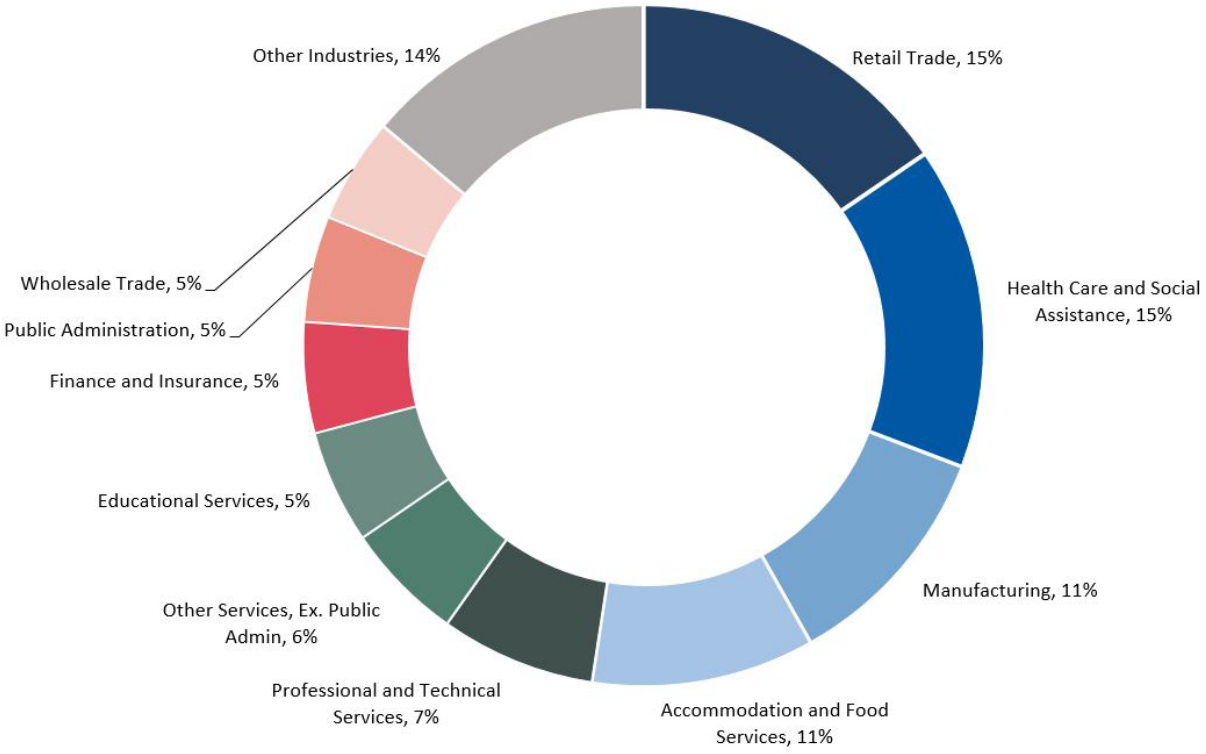
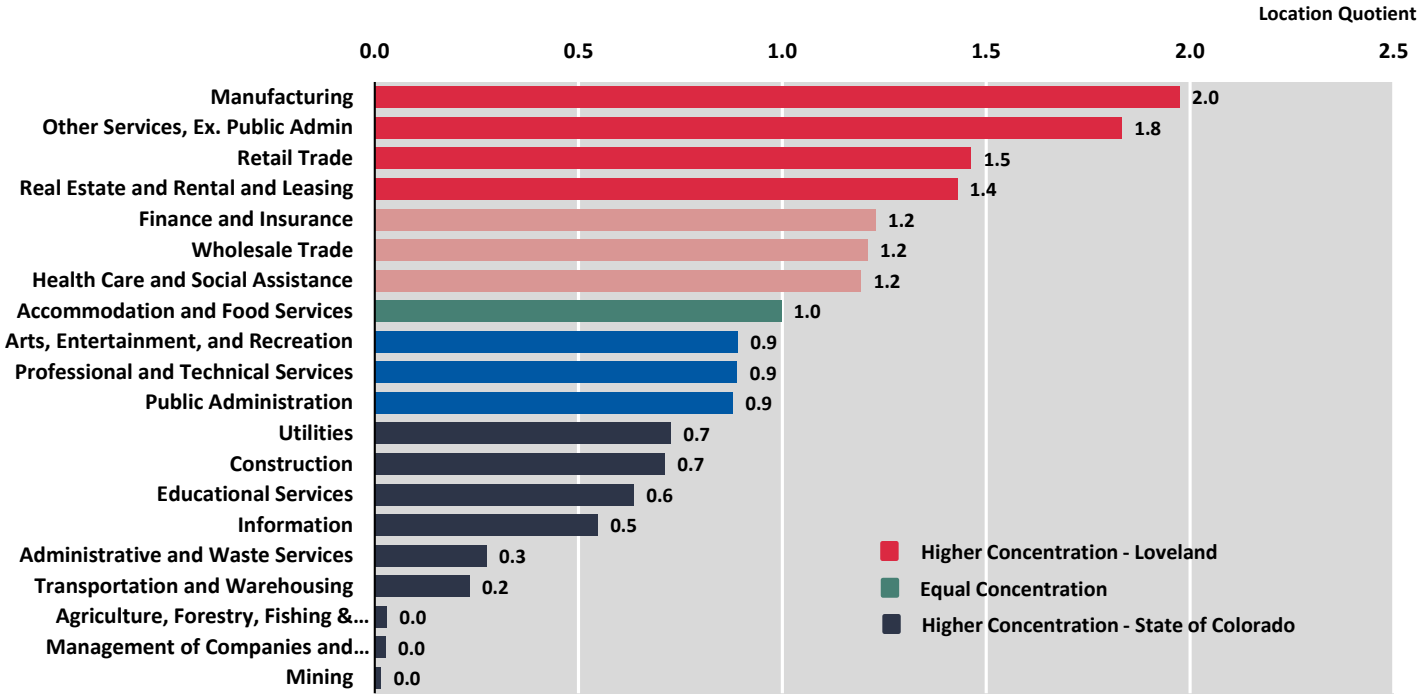


Figure 14. City of Loveland Percent Employment by Industry, 2018

The City of Loveland has higher than average concentrations of employment in manufacturing, retail trade, and other services industries. The proportion of manufacturing jobs in Loveland is twice the proportion found in the State of Colorado as whole, as illustrated by the manufacturing industry's 2.0 location quotient shown in **Figure 15**. A location quotient shows how concentrated an industry is in a particular area relative to the national average.

LOVELAND LOCATION QUOTIENT BY INDUSTRY, 2018



Source: ESRI

Figure 15. Loveland Location Quotient by Industry, 2018

NON-RESIDENTIAL DEVELOPMENT TRENDS

Loveland has 2.9 million square feet of office space, which is about 25 percent of Larimer County's total office inventory, as shown in **Table 5**. Between 2008 and 2018, Loveland added over 700,000 square feet of new office development, accounting for 44 percent of Countywide development. Loveland contains about 32 percent of total retail space in Larimer County, with 6.5 million square feet. From 2008 to 2018 Loveland added 390,000 square feet of new retail development – 15 percent of Countywide growth. Loveland's average retail vacancy rate is slightly lower than the county at 3.9 percent.

The City has 8.4 million square feet of industrial and flex space, approximately 38 percent of the total inventory in Larimer County. In the 10-year time period from 2008 to 2018, Loveland added about 800,000 square feet of new industrial and flex development, accounting for 40 percent of Countywide growth. In 2018, the average vacancy rate for industrial and flex space was 13.2 percent, over twice as high as the County, which had an average vacancy rate of 6.4 percent. The higher vacancy rate corresponds with new industrial development increasing in Loveland, likely reflecting new space being absorbed by the market.

COMMERCIAL INVENTORY SUMMARY, 2018

Description	Loveland	% of County	Larimer County
Office			
Inventory (sq. ft.)	2,909,272	25%	11,601,842
New Development (2008-2018)	716,989	44%	1,633,656
Average Rental Rate	$16.47		$16.19
Average Vacancy Rate	6.8%		3.7%
Retail			
Inventory (sq. ft.)	6,525,175	32%	20,091,719
New Development (2008-2018)	390,214	15%	2,659,733
Average Rental Rate	$17.00		$19.67
Average Vacancy Rate	3.9%		4.3%
Industrial/Flex			
Inventory (sq. ft.)	8,396,343	38%	22,029,227
New Development (2008-2018)	862,000	40%	2,135,683
Average Rental Rate	$9.85		$10.04
Average Vacancy Rate	13.2%		6.4%

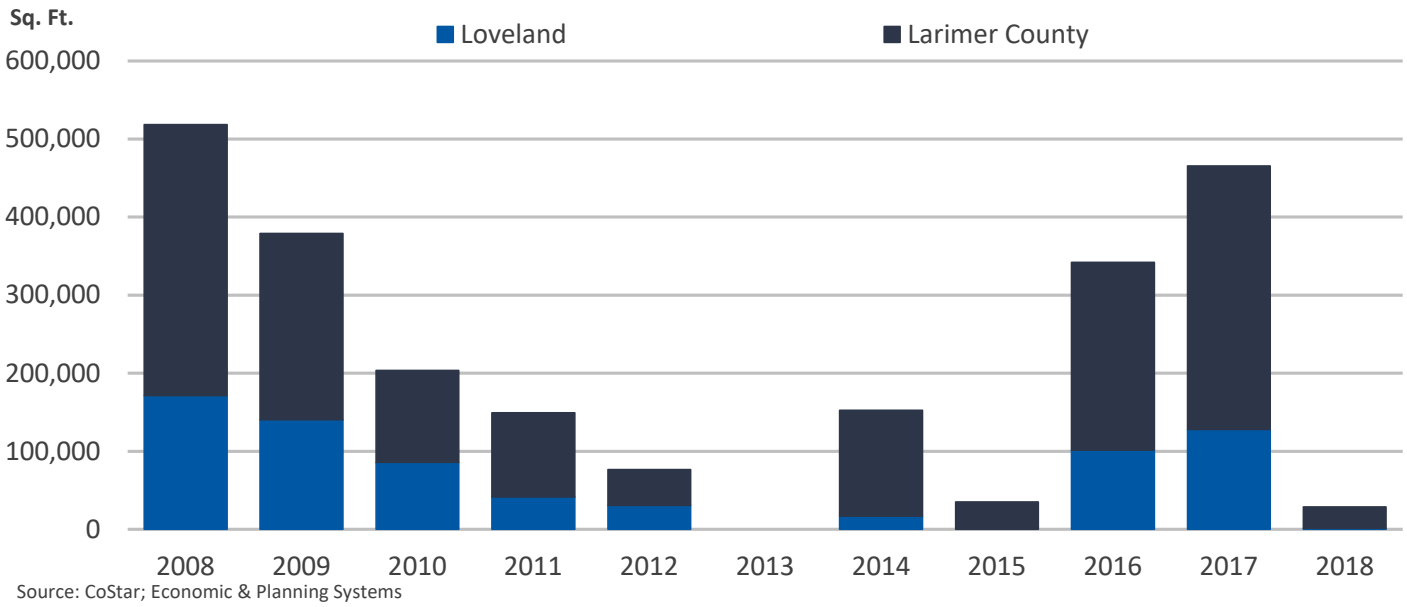
Source: CoStar; Economic & Planning Systems

Table 5. Commercial Inventory Summary, 2018

OFFICE DEVELOPMENT

From 2008 to 2018, Loveland added 716,989 square feet of office space, an annual average of 65,181 square feet of new inventory, as shown in **Figure 16**. Larimer County added 1,633,656 square feet of office space over this time - an annual average of 148,514 square feet of new space. While office construction has decreased annually since the peak of development in 2008, in 2016 and 2017 development began to increase again, reaching similar levels to 2008 and 2009 construction. New office development in the region has clustered around the I-25 and US-34 interchange. Since 2008, the City added 33 new office developments, the majority of which were less than 50,000 square feet.

OFFICE CONSTRUCTION, 2008-2018



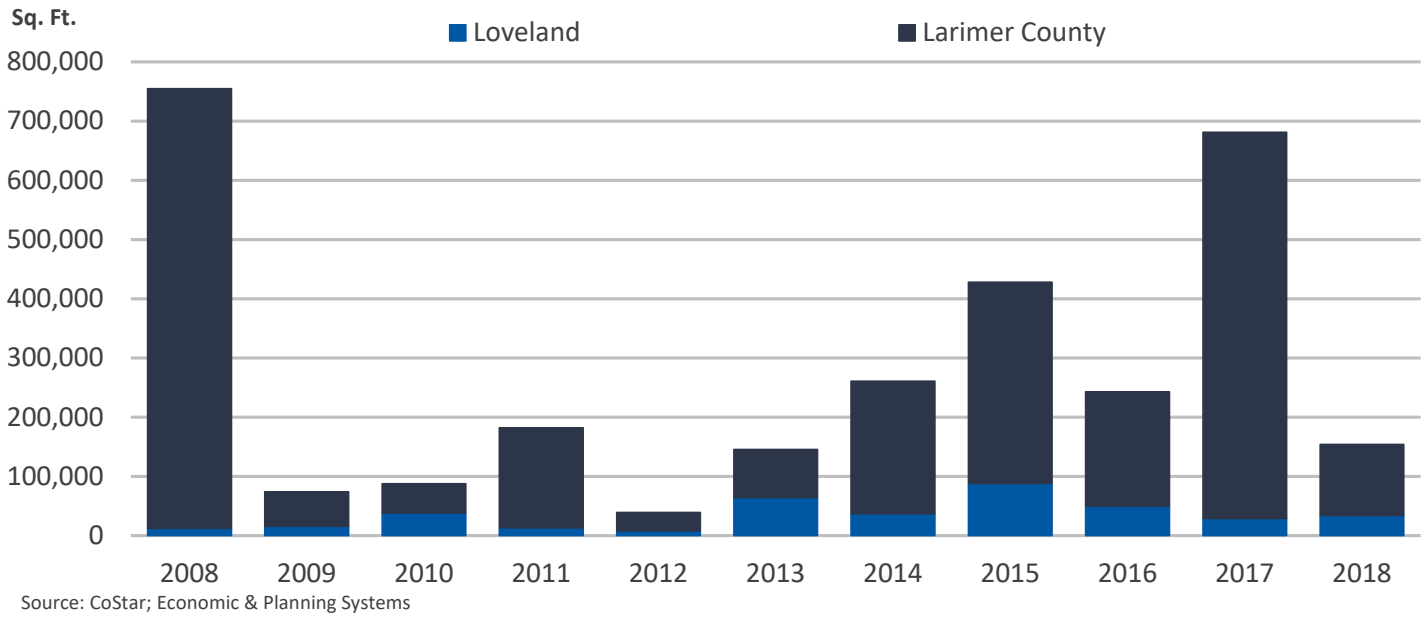
Source: CoStar; Economic & Planning Systems

Figure 16. Office Construction, 2008-2018

RETAIL DEVELOPMENT

From 2008 to 2018, Loveland added 390,214 square feet of new retail development, an annual average of 35,474 square feet, as shown in **Figure 17**. Over this same time Larimer County added 2.6 million square feet of new retail space, an annual average of 241,794 square feet of development. Since 2013, Loveland has consistently been adding about 50,000 square feet of retail annually. New retail space in Loveland has been built primarily along the corridors of US-34 leading to I-25 and along US-287 leading to Fort Collins. Since 2008, Loveland has added 36 new retail developments, most of which are smaller developments of around 20,000 square feet each.

RETAIL CONSTRUCTION, 2008-2018



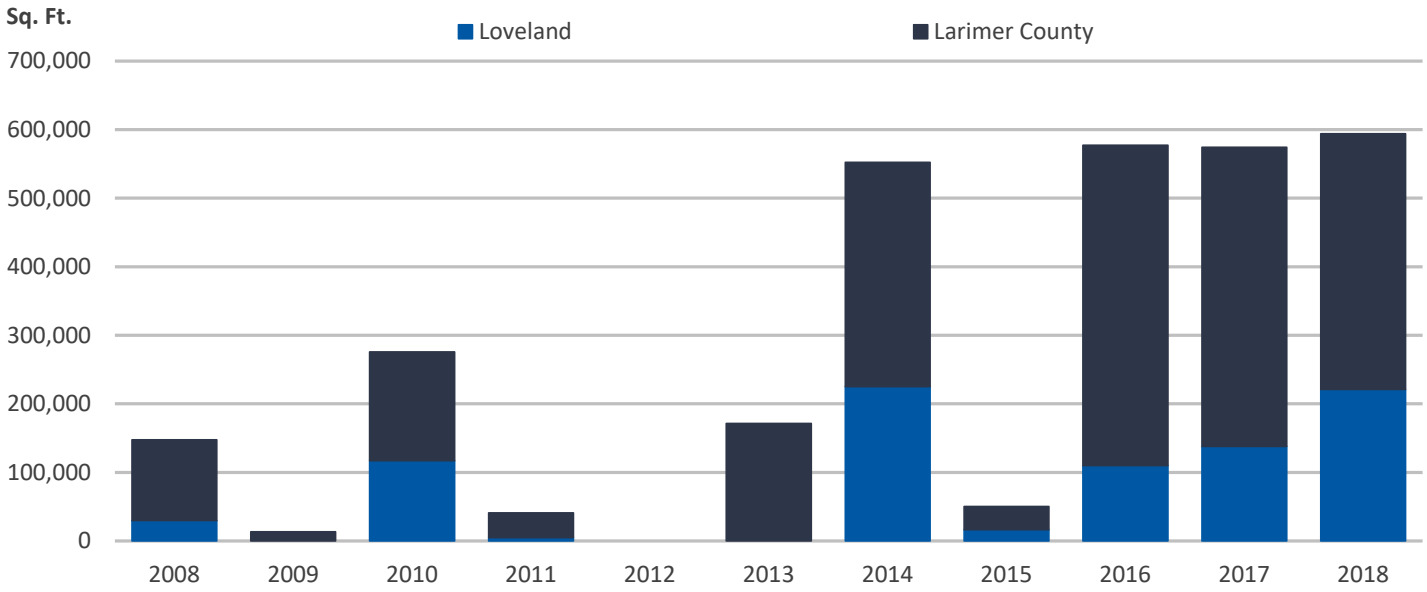
Source: CoStar; Economic & Planning Systems

Figure 17. Retail Construction, 2008-2018

INDUSTRIAL DEVELOPMENT

Between 2008 and 2018, Loveland added 862,000 square feet of industrial space, an annual average of 78,364 square feet, as shown in **Figure 18.** Most of Larimer County and Loveland's industrial development is clustered near I-25. Since 2008, Loveland has added 20 industrial developments, the largest being approximately 212,000 square feet.

INDUSTRIAL CONSTRUCTION, 2008-2018



Source: CoStar; Economic & Planning Systems

Figure 18. Industrial Construction, 2008-2018

05 ROADWAY NETWORK

Loveland has 525 total miles of roadway. I-25 , US-34, and US-287 provide regional connections to nearby cities while a network of arterials and collector streets serve local mobility needs. **Figure 19** shows the City's roadway classifications.

LOVELAND EXISTING ROADWAY CLASSIFICATIONS

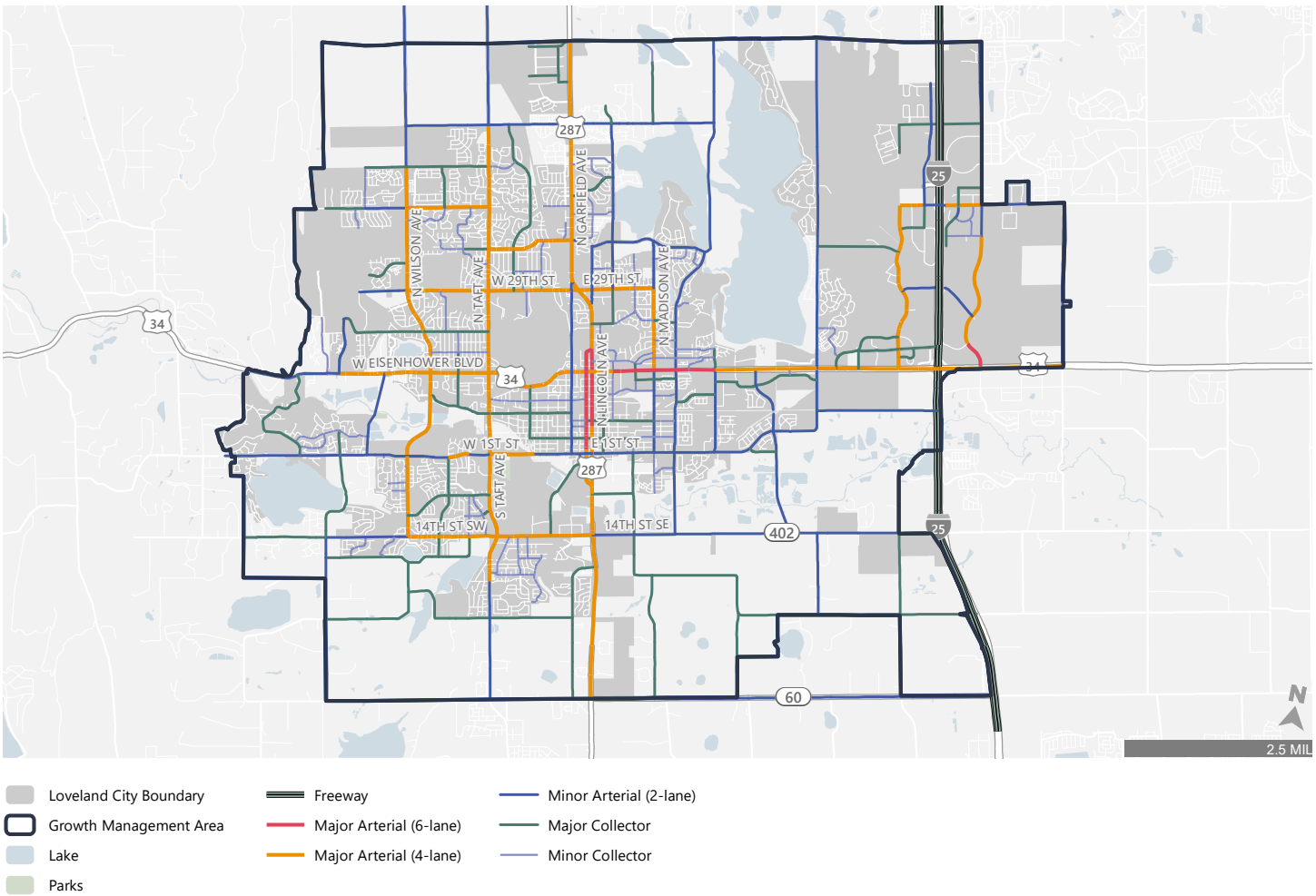


Figure 19. Existing Roadway Classifications

TRAFFIC VOLUMES

Traffic volumes in Loveland have shifted in the last few years. Traffic count data shows that traffic volumes grew by an average of 13 percent between 2012 and 2017, the most recent year traffic count data was collected (**Figure 20**).

CHANGE IN VEHICLE VOLUMES BETWEEN 2012 AND 2017

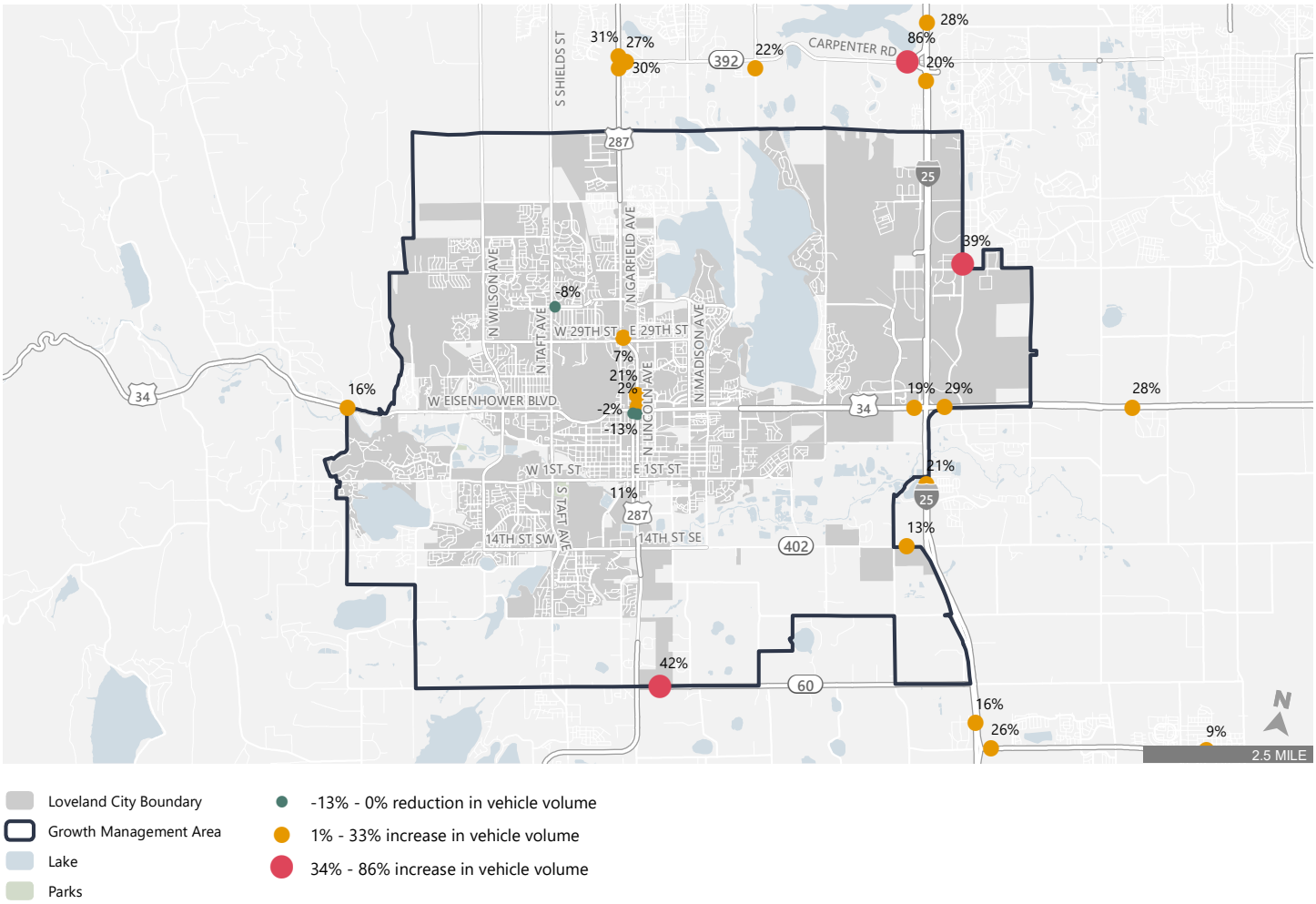


Figure 20. Change in Vehicle Volumes Between 2012 And 2017

The change in traffic volumes has differed throughout the City. Some major roadways like Cleveland Avenue and 37th Street witnessed a decrease in vehicle trips. Modest increases in volume of up to 20 percent more vehicles were primarily seen on north-south arterials like Lincoln Avenue. Significant increases of over 20 percent were see on I-25 and State Highway 60.

Traffic volumes on roadways just north of Loveland have increased between 17 percent and 86 percent. Employment growth in Loveland and nearby cities can help explain the increase in traffic volumes. An analysis of commute trends can be found on **page 36**.

TRAVEL TIME

Vehicle travels times are tracked on US-34, US-287, and Taft Avenue (**Figure 21**). These roadways tend to provide stable travel times throughout the day. **Tables 6, 7, and 8** show peak vs. off-peak travel times. A southbound vehicle on US-287 will experience the same approximately the same travel time during peak and off-peak hours. Meanwhile, a northbound trip on Taft Avenue is 20 percent faster during off-peak times.

CORRIDORS MEASURED FOR TRAVEL TIME

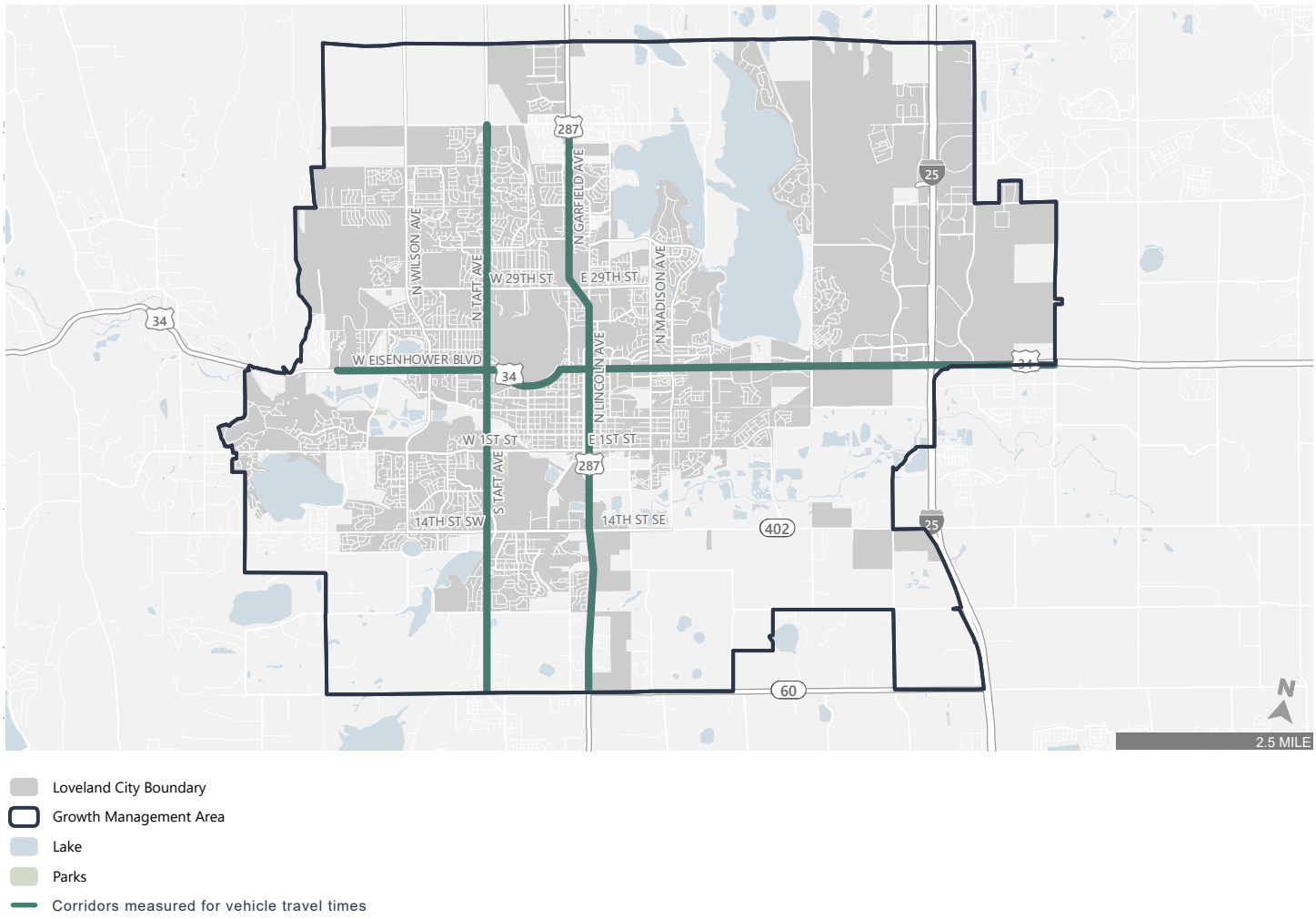


Figure 21. Corridors Measured for Travel Time

TABLE 6: US-34 (EASTBOUND)	
Peak	Off-Peak
11 minutes AM	9.25 minutes AM
12 minutes PM	9.5 minutes PM
US-34 (WESTBOUND)	
Peak	Off-Peak
13 minutes AM	11.5 minutes AM
15.5 minutes PM	11.25 minutes PM

TABLE 7: US-287 (NORTHBOUND)	
Peak	Off-Peak
11.5 minutes AM	11 minutes AM
12.5 minutes PM	12 minutes PM
US-287 (SOUTHBOUND)	
Peak	Off-Peak
12.5 minutes AM	12.5 minutes AM
13 minutes PM	12.5 minutes PM

TABLE 8: TAFT AVENUE (NORTHBOUND)	
Peak	Off-Peak
10 minutes AM	8 minutes AM
10 minutes PM	8 minutes PM
TAFT AVENUE (SOUTHBOUND)	
Peak	Off-Peak
10 minutes AM	8 minutes AM
11 minutes PM	9 minutes PM

LEVEL OF SERVICE

Each intersection in the City of Loveland is monitored for its ability to efficiently move vehicles through the City. Intersections are assigned an A through F Level of Service designation with A being an intersection that moves all vehicles at free flow speeds while F is an intersection that experiences congestion and queues that fail to clear (**Figure 22**).

The City has a minimum Level of Service standard of C for all major intersections. Most intersections in Loveland perform at an acceptable LOS **(Figure 23**). Some intersections like 14th Street and US-287 perform at Level of Service D, which is just below City standards, but still permits vehicles to move through the corridor. None of the major intersections in Loveland fall below a LOS D.

LOS A - Free flow traffic

LOS C - Stable flow

LOS D - Traffic speed begins to decrease as volumes increase, approaching unstable flow

LOS F - Breakdown in traffic flow that results in traffic jams, forced flow

Figure 22. Level of Service Designations

EXISTING PM PEAK HOUR INTERSECTION LEVEL OF SERVICE

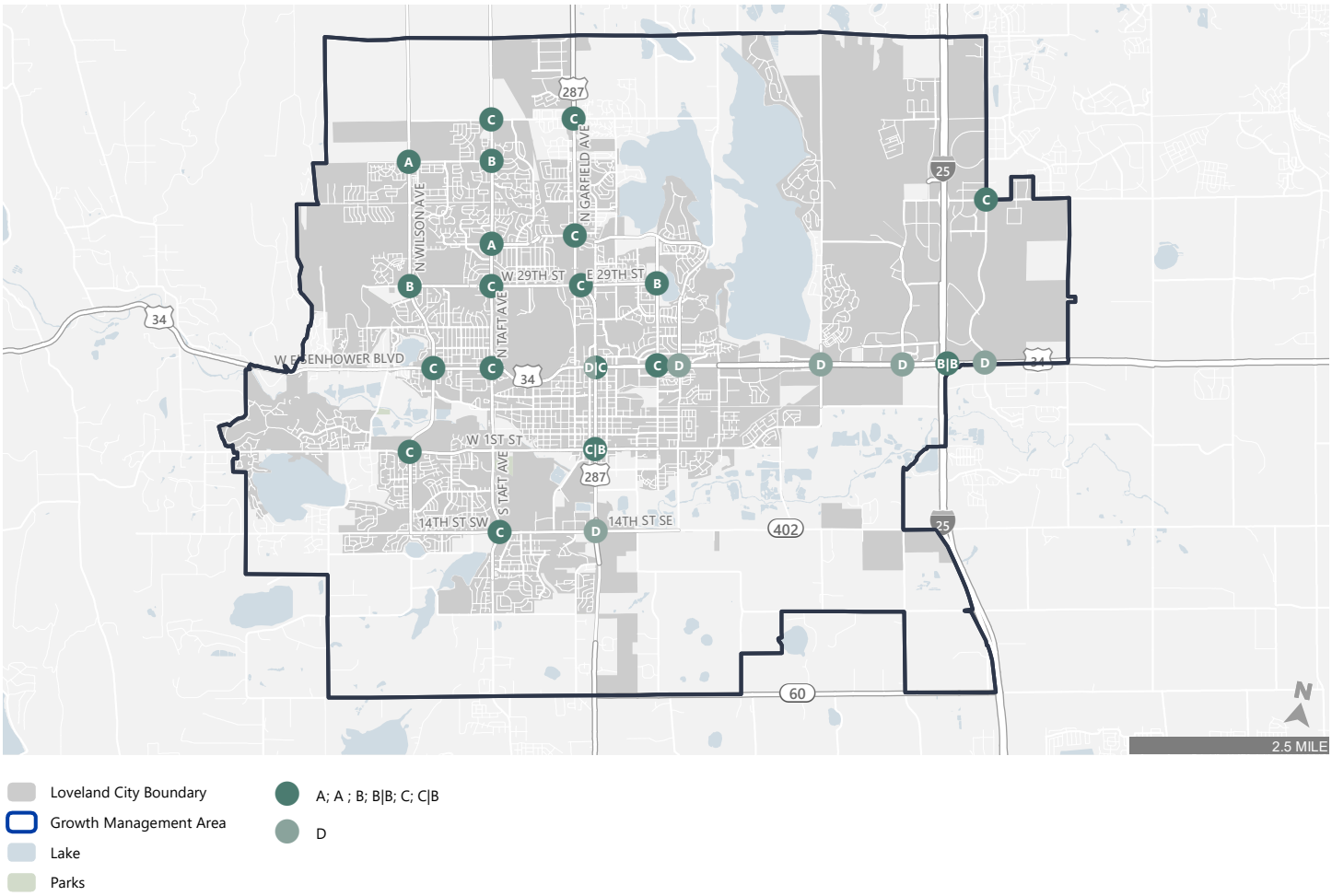


Figure 23. Existing PM Peak Hour Intersection Level of Service

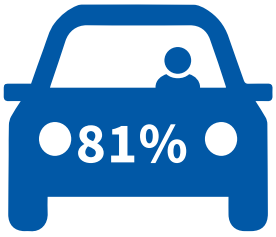
VEHICLE MILES TRAVELED (VMT)

Everyday there are approximately 1.6 million vehicle miles traveled (VMT) on Loveland roadways. This figure excludes I-25, where many vehicle trips pass through the City. On average, every Loveland residents drives approximately 21 miles per day. Half of daily VMT occurs during the AM and PM peak periods, with the afternoon peak accounting for 35 percent of daily VMT.

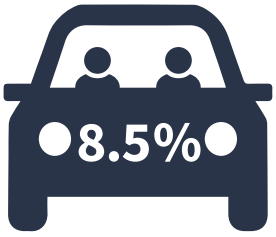
Loveland has slightly lower per capita VMT than the Denver region (25.5 daily VMT) and significantly higher VMT than the Northern Colorado region average (approximately 10 daily VMT). The Northern Colorado region has a low per capita VMT in part because Fort Collins is a large population center for the region and has actively pursued raising the share of residents who walk, bike, and take transit, while also reducing vehicle trips.

MODE SPLIT

According to American Community Survey estimates, the majority of Loveland residents commute by driving alone. The way people travel has remained largely consistent; in 2000 Loveland residents reported driving alone and carpooling at slightly higher rates than today, but fewer people took transit or worked from their homes.



DRIVE ALONE



CAR POOL

PUBLIC TRANSIT

WALK

BICYCLE

OTHER (WORK FROM HOME)

COMMUTE PATTERNS

LOVELAND, 2015

Loveland is home to 30,564 jobs (2015 LEHD data). 7,608 people live and work in Loveland, the remaining 23,000 workers commute in on a daily basis (**Figure 24**). In addition, nearly 23,000 workers live in Loveland but leave the City to work in neighboring communities (**Figure 25**).

WHERE PEOPLE WHO WORK IN LOVELAND ARE COMING FROM

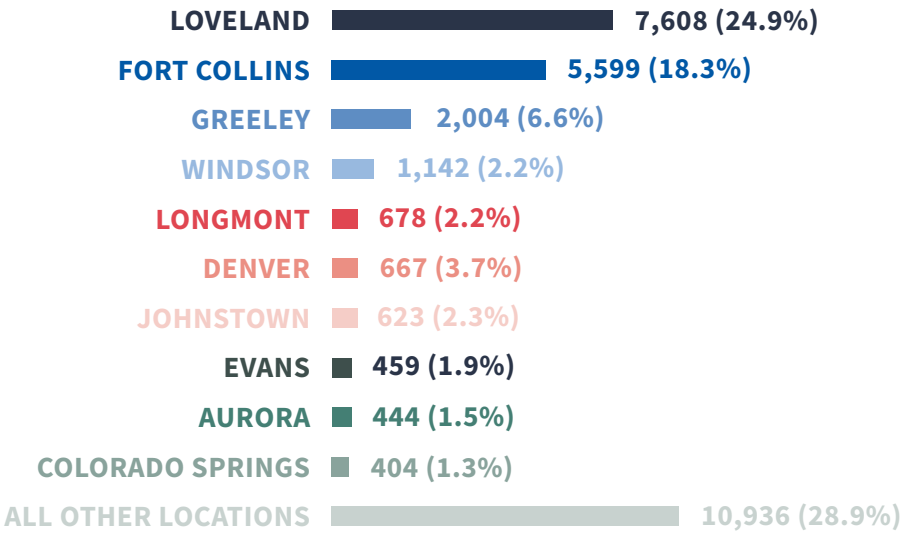


Figure 24. Where People Who Work in Loveland Are Coming From

WHERE PEOPLE WHO LIVE IN LOVELAND WORK

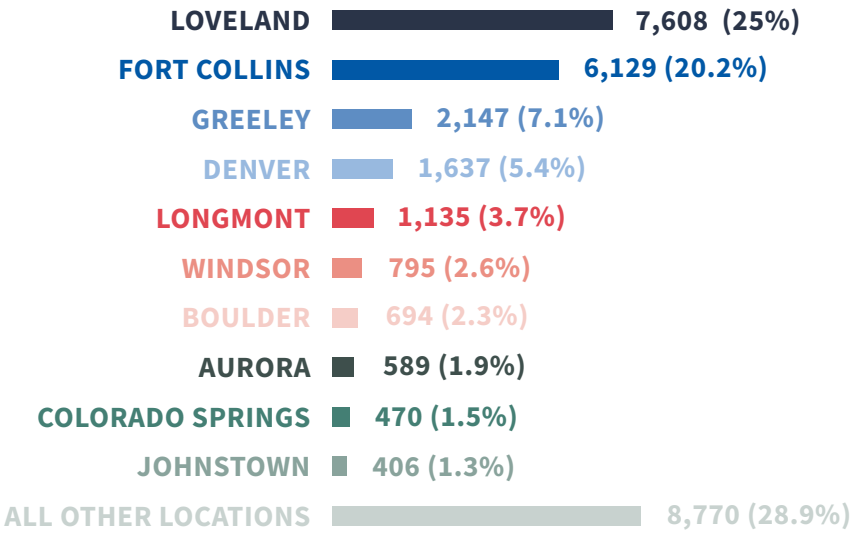
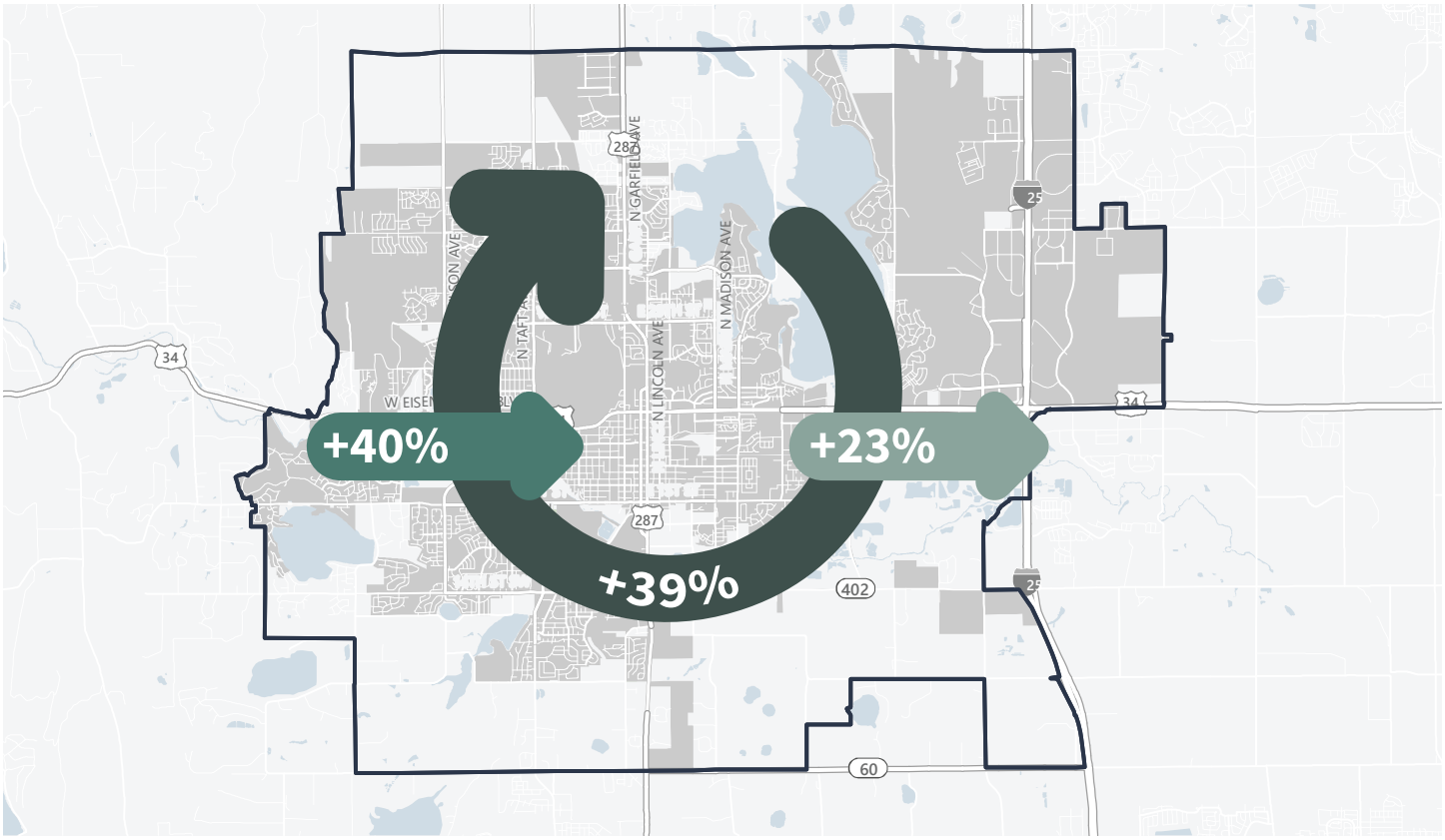


Figure 25. Where People Who Live in Loveland Work

Both Loveland and the surrounding region have witnessed substantial employment growth since the great recession (**Figure 26**). Loveland saw a 40 percent increase in people commuting into the City for work from 2010 to 2015. During the same time period there was a 23 percent increase in Loveland residents commuting outside the city for work. The increased employment base has also lead to a 39 percent increase in the number of people both living and working in Loveland.

JOB GROWTH, 2010-2015



Coming into Loveland for Work
Leaving Loveland for Work
Both Live and Work in Loveland

Figure 26. Job Growth, 2010-2015

05 BICYCLE AND PEDESTRIAN NETWORK

EXISTING BICYCLE FACILITIES

Loveland has bikeways on 90 miles of roadways (**Figure 27**). In addition, Loveland has 22 miles of recreational trails.

EXISTING BICYCLE FACILITIES

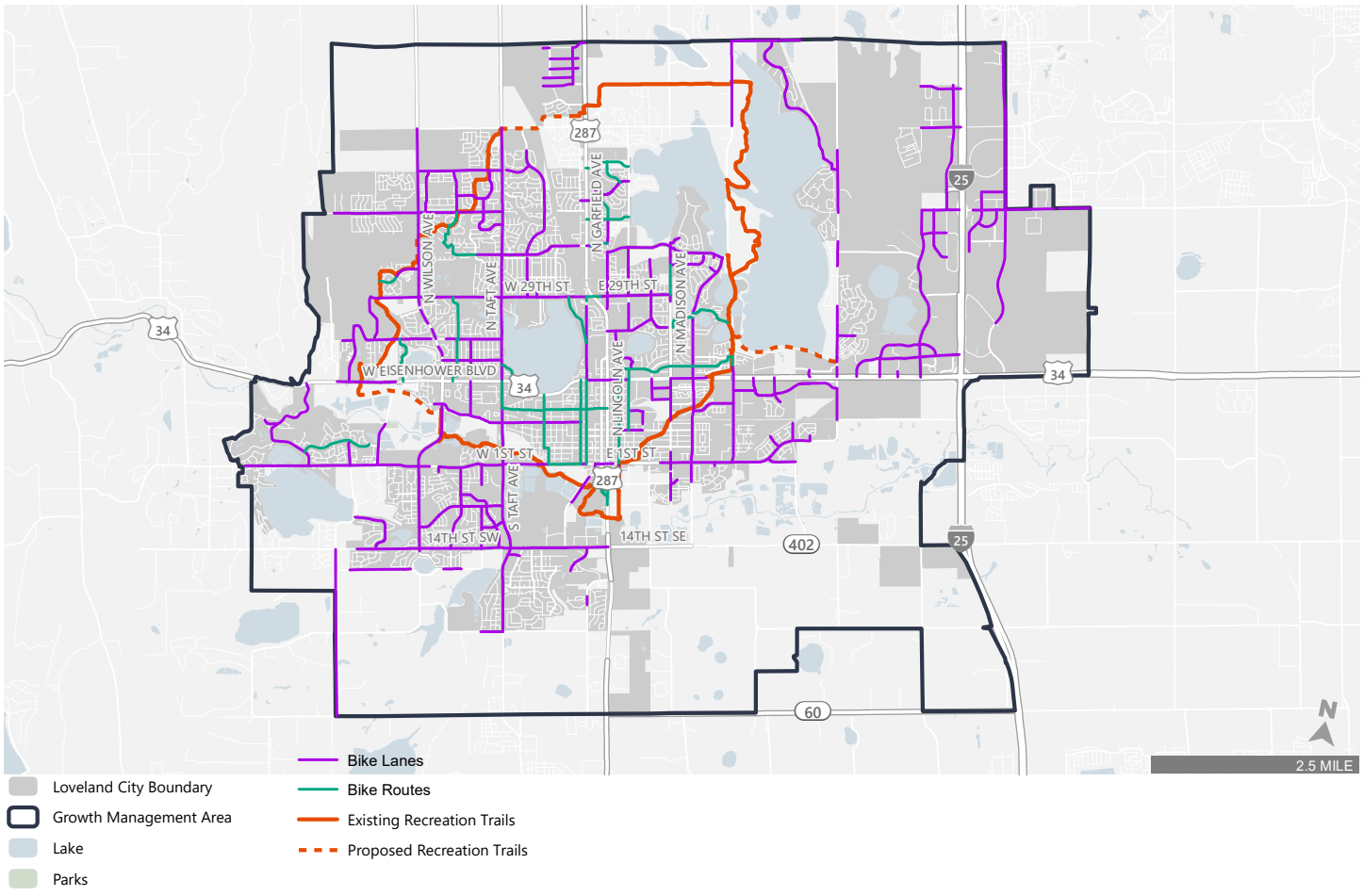


Figure 27. Existing Bicycle Facilities

EXISTING PEDESTRIAN FACILITIES

The City has 563 total miles of sidewalks. 142 miles of sidewalk gaps have been identified (**Figure 28**). Sidewalk gaps exist along roadway segments that are less pedestrian friendly and in areas of the City that were recently annexed from Larimer County.

EXISTING PEDESTRIAN FACILITIES

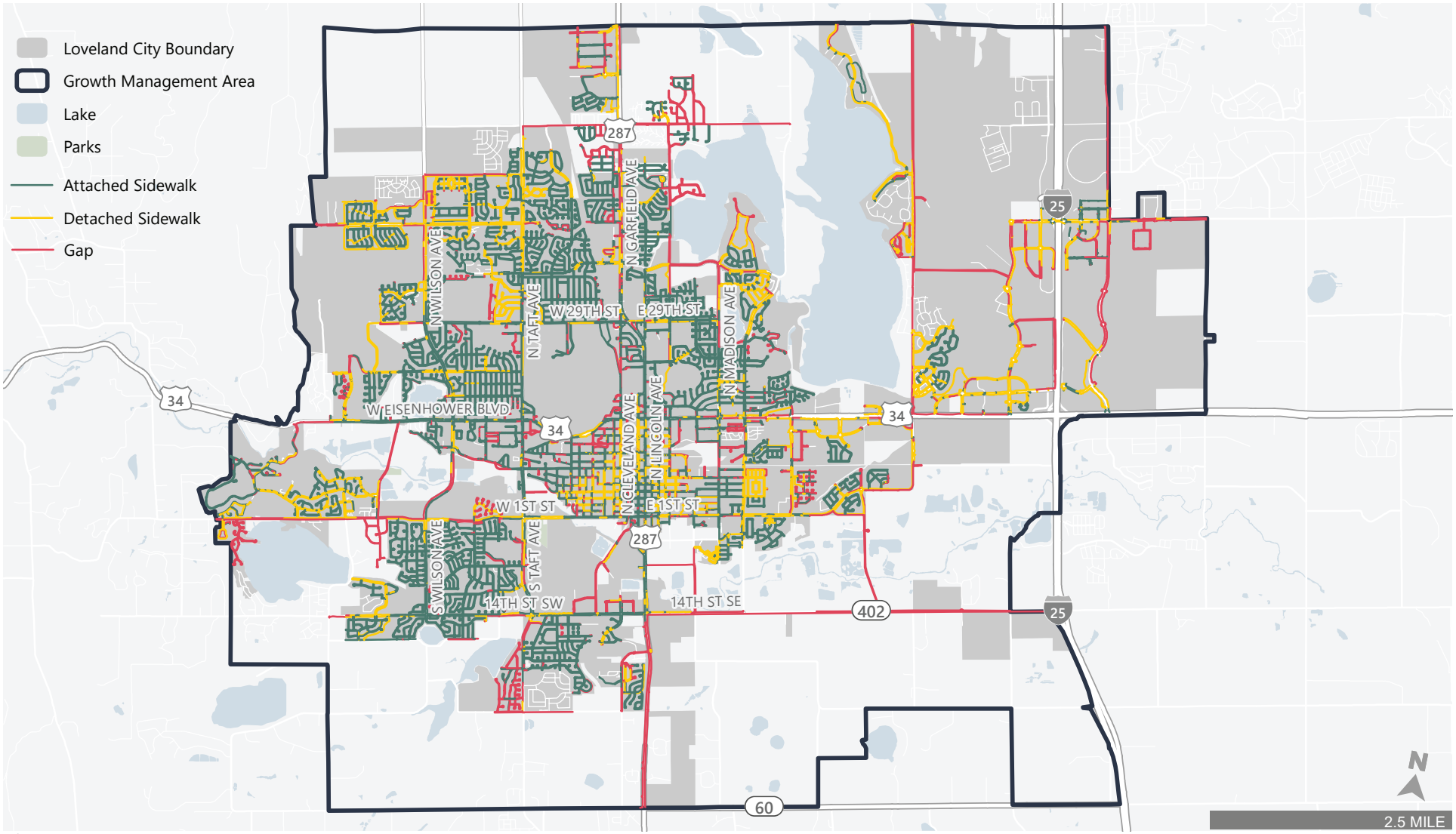


Figure 28. Existing Pedestrian Facilities

07 TRANSIT

City of Loveland Transit (COLT) is Loveland's transit provider. COLT began operation in 1993 and fixed-route service began in 1997. In 2008, COLT expanded from two to three routes. In April, 2018 the City added an east-west express route on US-34. At the time all four routes operated at 60-minute frequencies. In November, 2018 the system was restructured to increase frequency and improve rider convenience. COLT now operates two routes at 30-minute frequencies and three routes at 60-minute frequencies throughout the day, but continuing to use four buses. No evening or Sunday fixed-route service is provided.

COLT CONTRACTS WITH A PRIVATE OPERATOR FOR PARATRANSIT

In 2017 about 18% of total operating expenses were used for paratransit. In April, 2018 COLT contracted out paratransit service to a private provider freeing up fleet capacity to expand fixed-route service. In addition, through a partnership with Fort Collins, paratransit users can utilize Dial-a-Taxi during hours paratransit does not operate or for destinations outside the service area. Dial-a-Taxi service is provided by a private taxi company, with up to $20 of the trip subsidized by COLT.

EXISTING TRANSIT SERVICE

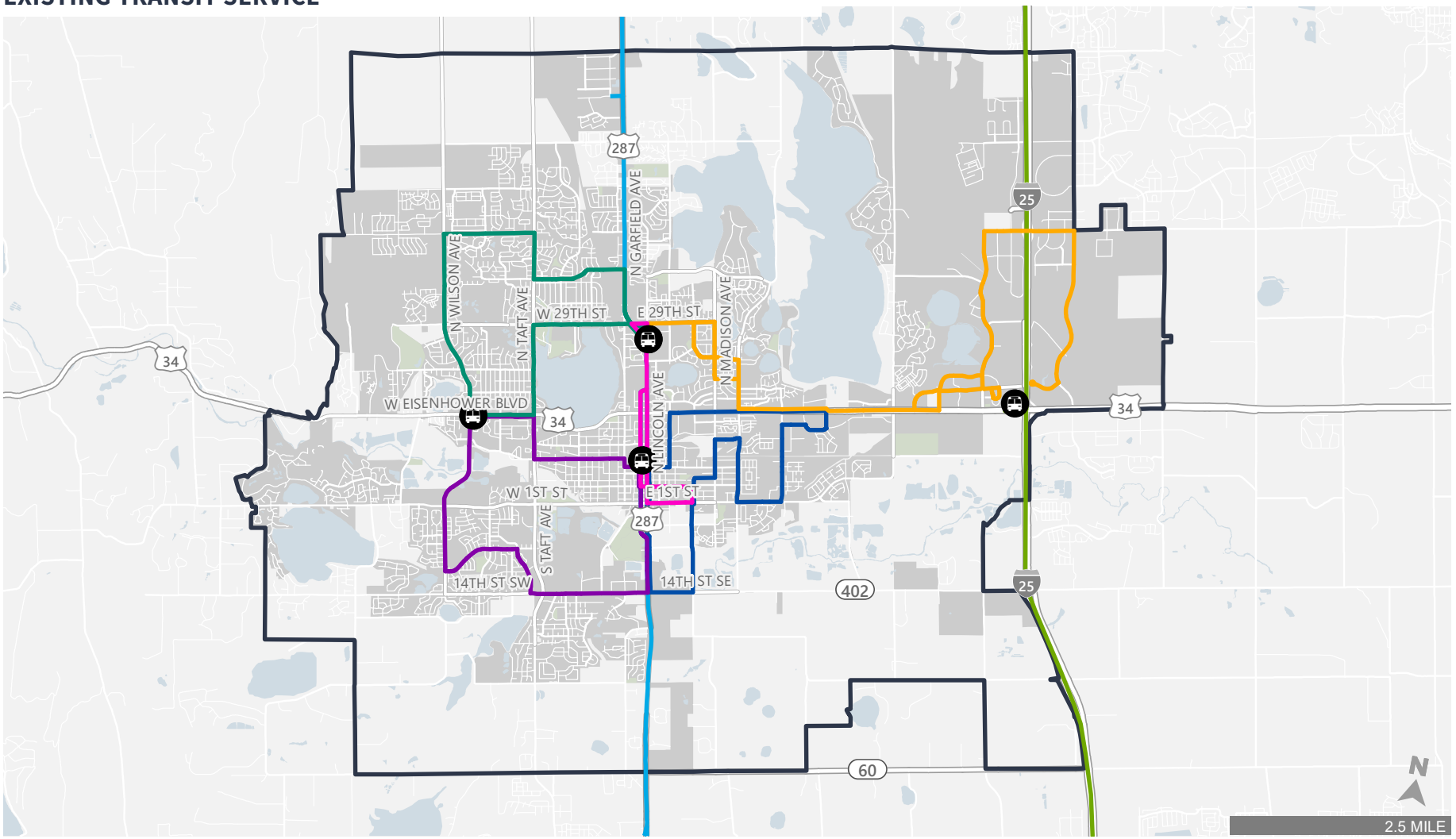


Figure 29. Existing Transit Service

THE TRANSIT NETWORK WAS RESTRUCTURED IN 2018 TO ADD FREQUENCY

In an effort to grow ridership, COLT completely restructured the City's local routes in November 2018, eliminating the poorly performing US-34 Express Route, reducing overlap between routes, streamlining routes, increasing bi-directional operations, shortening route lengths and introducing 30-minute frequencies. Frequencies were increased without additional service hours or buses. Schedules are also timed to provide convenient transfers between routes at the North, South, and West Transfer Stations. **Figure 30** illustrates the transit network prior to the restructure with several looping routes all operating at 60-minute frequencies. **Figure 31** shows the network after the restructure in November, 2018 with more direct alignments and the addition of 30-minute frequencies.

2018 LOVELAND TRANSIT NETWORK BY FREQUENCY, PRIOR TO NETWORK RESTRUCTURE

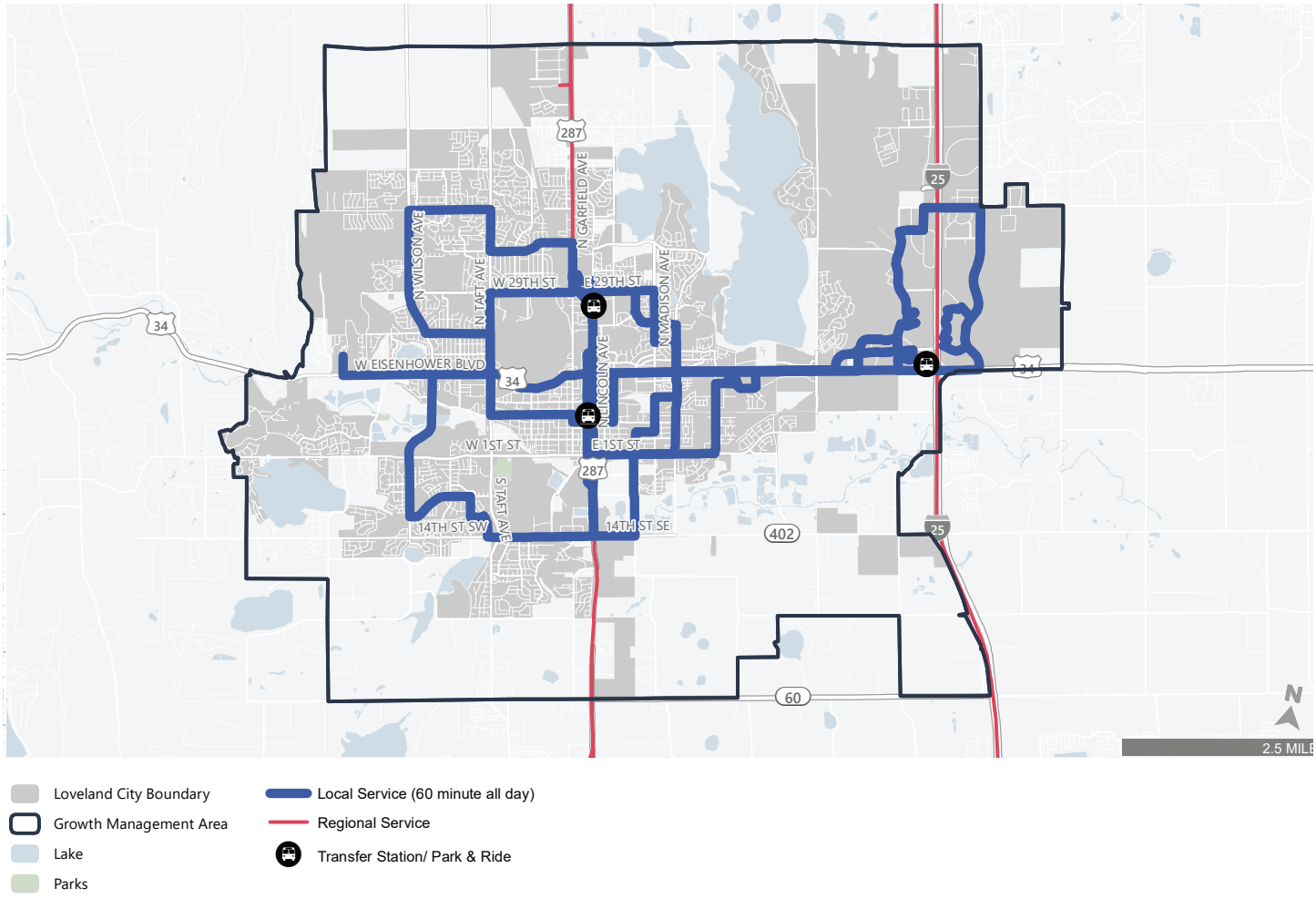


Figure 30. 2018 Loveland Transit Network by Frequency, Prior to Network Restructure

2019 LOVELAND TRANSIT NETWORK BY FREQUENCY, AFTER NETWORK RESTRUCTURE

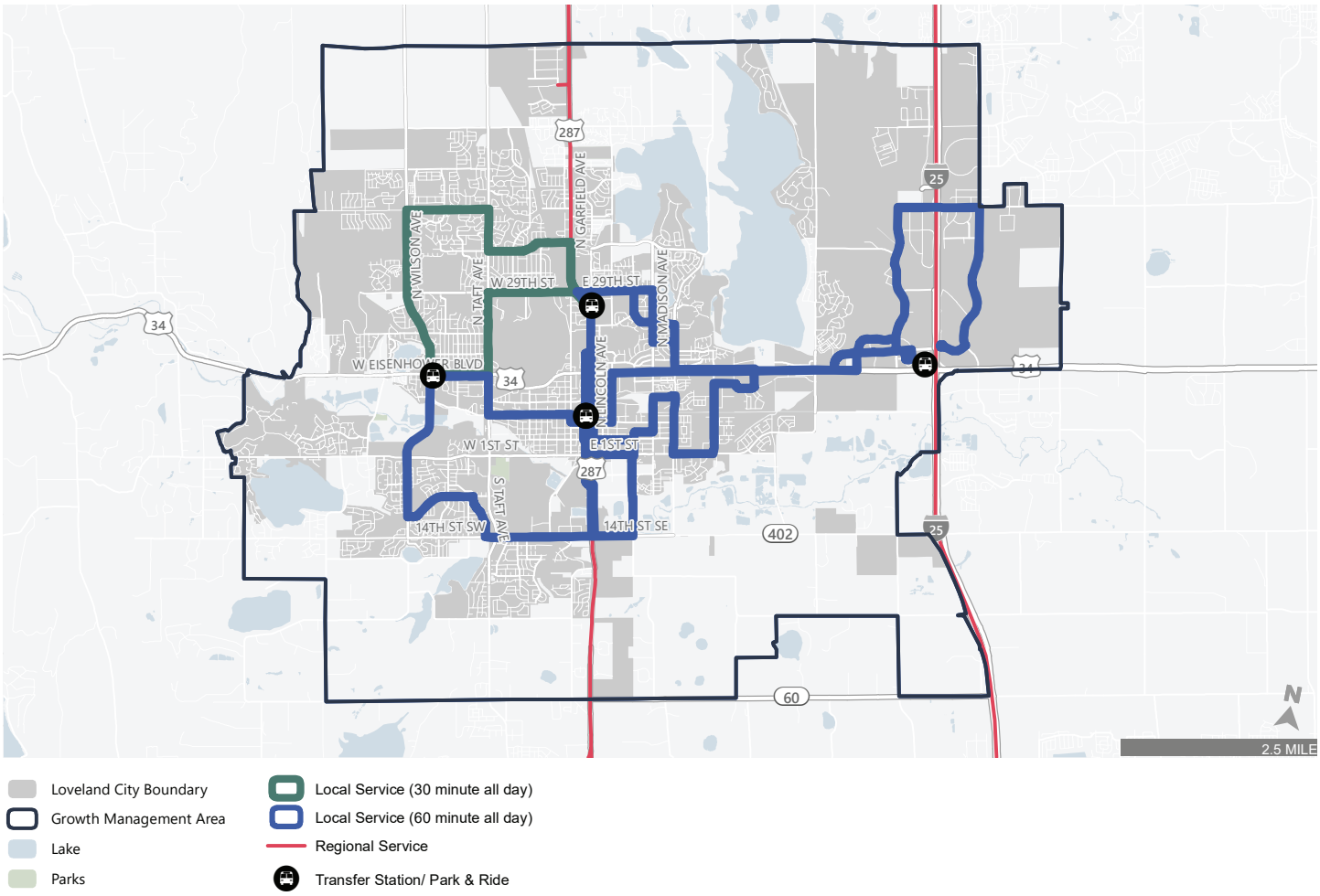
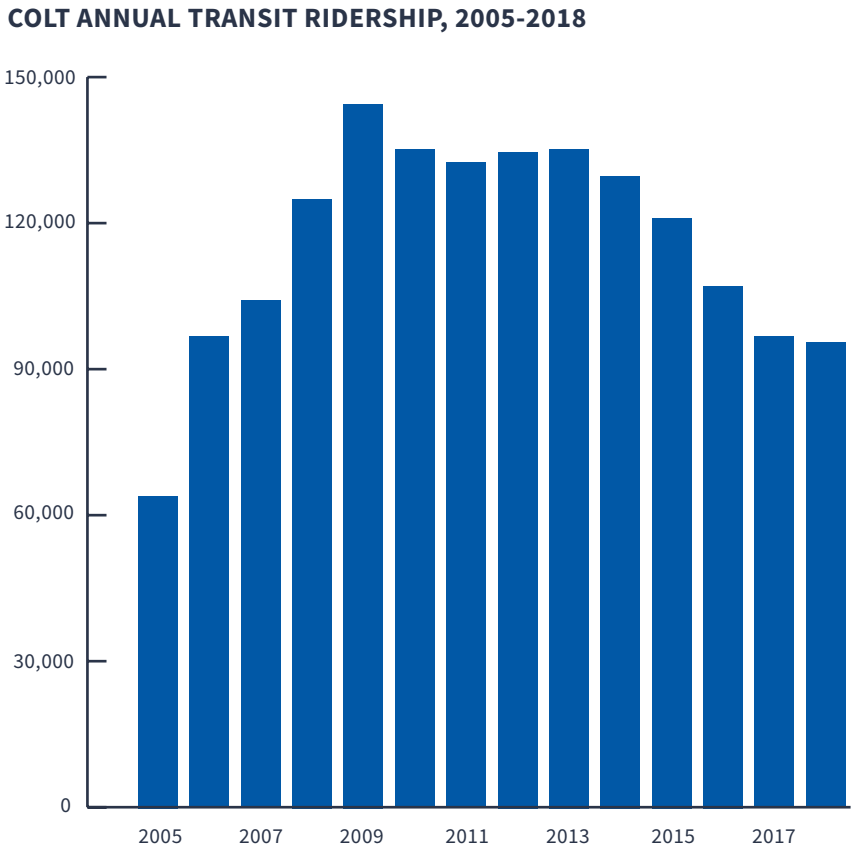


Figure 31. 2019 Loveland Transit Network by Frequency, After Network Restructure

TRANSIT RIDERSHIP DROPPED EVERY YEAR FROM 2013 TO 2018

Ridership on COLT more than doubled between 2005 and 2009. However, similar to national trends, citywide transit ridership on COLT declined 29 percent from 135,000 annual riders in 2013 to 95,000 annual riders in 2018, as shown in **Figure 32**. During the same time, the City's population increased by 9 percent (from 71,000 to 78,000) and annual transit service hours increased by 27 percent (from 14,000 to 18,000). It should be noted that annual service hours remained relatively flat from 2013 to 2017 and increased 19 percent in 2017-2018 when an additional bus was added to the fixed-route network.

Ridership trends mimic national ridership trends, which peaked in 2008 when gas prices were high, declined during the recession before rebounding 2012-2014 and have declined about 5 percent from 2014 to 2017 despite population growth. However, the decline in transit ridership in Loveland over the last five years is generally steeper than national trends. This recent decline is likely attributed in part to national trends of increasing affordability and accessibility of cars (influenced by a strong economy and low gas prices) combined with minimal changes made to the local transit network during that time (prior to 2018).



Source: National Transit Database

Figure 32. COLT Annual Transit Ridership, 2005-2018

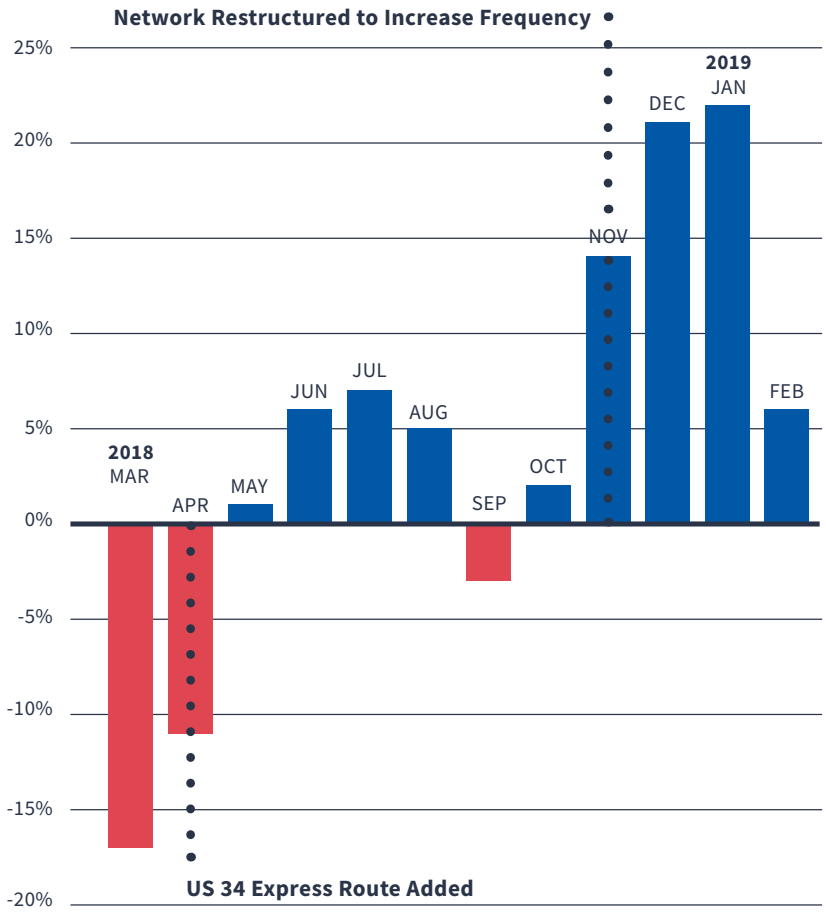
TRANSIT RIDERSHIP HAS INCREASED SINCE THE ROUTE RESTRUCTURE IN 2018

Since COLT restructured routes in November, 2018 to provide more frequent and direct service transit ridership has increased 21 percent in December, 22 percent in January and 6 percent in February when compared to the same months of the previous year. Note: These trends are preliminary given there is only three months of data and should be revisited once at least a full year of data is available.

ROUTE 1 HAS THE HIGHEST PRODUCTIVITY

Productivity is a measure of passengers per service hour and is a good indicator of the cost efficiency achieved. Route 1 is one of only two routes in Loveland with 30-minute frequency (the other being Route 2) and connects the North and South Transit Centers, including downtown, Civic Center, and core commercial areas along US-287 (Lincoln Avenue and Cleveland Avenue) with a direct route alignment (as shown in **Figure 29**). Not surprisingly, this route also has the highest productivity, as shown in **Figure 34**. Note: given the recent route restructure, productivity is based on data just from December, 2018. This metric should be revisited once at least a full year of data is available.

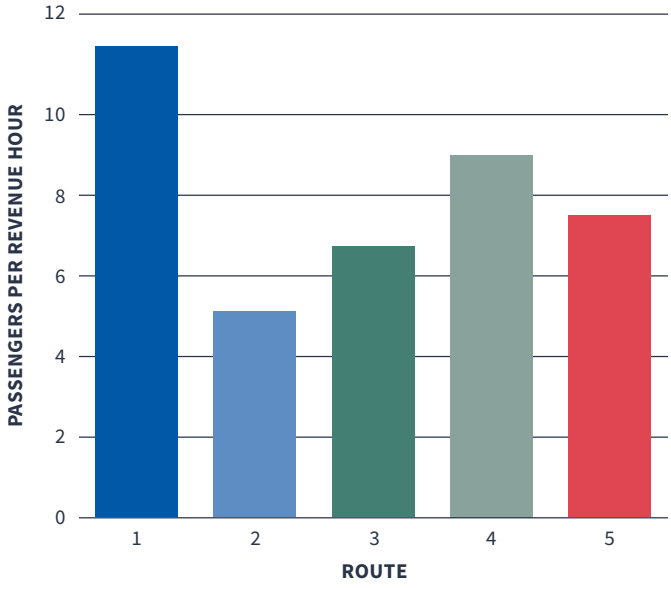
COLT YEAR-OVER-YEAR MONTHLY RIDERSHIP CHANGE



Source: National Transit Database

Figure 33. COLT Year-Over-Year Monthly Ridership Change

COLT PRODUCTIVITY, DECEMBER 2018



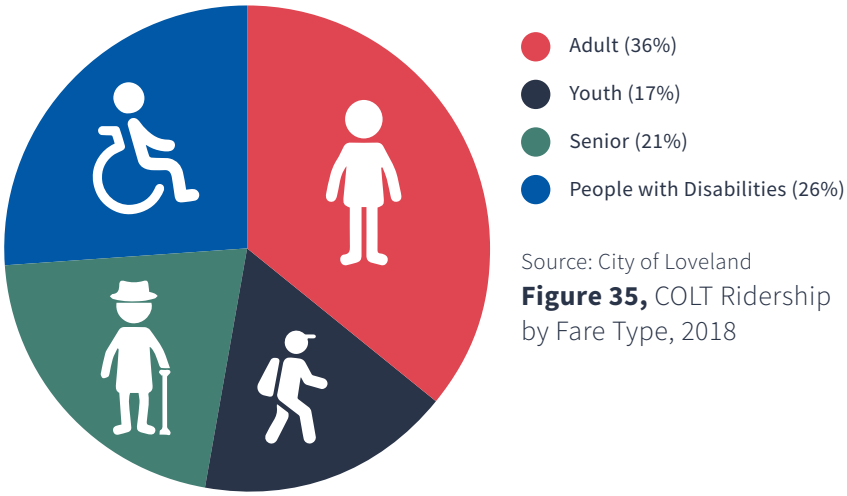
Source: City of Loveland

Figure 34. COLT Productivity, December 2018

COLT IS DISPROPORTIONATELY USED BY SENIORS AND PEOPLE WITH DISABILITIES

Excluding transfers, about 26 percent of COLT users qualify for the reduced fare program offered to riders with disabilities, while only about 12 percent of the resident population in Loveland has a recognized disability. Similarly, about 29 percent of riders without disabilities are seniors (60 years and older), while seniors represent only 23 percent of the population.

COLT RIDERSHIP BY FARE TYPE, 2018



Source: City of Loveland

Figure 35, COLT Ridership by Fare Type, 2018

TRANSIT IS FUNDED PRIMARILY THROUGH THE CITY GENERAL FUND

Nearly two thirds of funding for COLT is provided from the general fund, with about 7 percent of revenue from fares. About 82 percent of the 2017 COLT operating budget of $1.379 million was used to provide fixed-route transit (the remaining allocated to paratransit). This equated to an average cost per passenger of $11.70 in 2017.

PARK & RIDES AND TRANSIT CENTERS

COLT does not formally own any park & rides. Passengers have access to parking lots privately owned by adjacent businesses at both the North and South Transfer Centers along US-287, which are primarily used by FLEX patrons for regional trips. The location of these transfer centers are mapped in **Figure 29**. COLT recently purchased land near US-287 and 37th Street to relocate and upgrade amenities at the North Transfer Center. Additionally CDOT operates the Loveland-Greeley Park & Ride near US-34 & I-25, which is primarily used by Bustang patrons commuting to Denver. This park & ride will be relocated to the median of I-25 at Kendall Parkway in 2021 or 2022 as part of the I-25 North expansion project.

REGIONAL TRANSIT SERVICE

Transfort, Fort Collins' transit provider, operates the FLEX regional route connecting Loveland with Fort Collins, Berthoud, Longmont, and Boulder. Nearly a quarter of COLT users transfer to or from the FLEX. FLEX operates on US-287 through Loveland with stops at both the North and South Transfer Centers in addition to several other stops on the north and south end of town along US-287. Hourly service is provided to Fort Collins during the day and 30-60 minute service during peak hours, with peak period only service south of Loveland. CDOT also operates Bustang, which provides mostly peak period, peak direction service (at 30 minute frequencies) to Denver via I-25 from the Loveland-Greeley Park & Ride at US-34 and I-25.

ADDITIONAL MOBILITY SERVICES

Several other mobility services are also offered in Loveland. VanGo is a vanpooling service provided by the North Front Range Metropolitan Planning Organization that matches participants with similar commute patterns and provides a van. VanGo is most commonly used by people with longer commutes between cities along the Front Range. Senior Alternatives in Transportation (SAINT) is a local non-profit that provides prescheduled door-to-door personal transportation for seniors 60 years and older and adults with disabilities. Service is provided on weekdays during normal business hours. Groome (previously named GreenRide) is a privately operated shuttle service between Loveland and Denver International Airport (DIA). Groom provides regularly scheduled hourly service to DIA from the Northern Colorado Regional Airport (used as a park & ride) and an on-street stop on Stone Creek Circle (near I-25 and US-34) as well as prescheduled home pick-up/drop-off locations.

08 SAFETY

The number of total crashes and severity of crashes has increased steadily over the last five years, as shown in **Figure 36**. From 2016 to 2018, there were 14 total fatalities. The majority of injuries and fatalities occurred on large arterials, with US-287 having a majority of the fatalities. **Figure 37** shows the main types of crashes. Rearends were the most common types of crashes, at 40 percent of all recorded crashes, with broadside as the next most common at 15 percent of all crashes.

CRASH SUMMARY

Figure 36. Summary of All Crashes

TYPES OF CRASHES

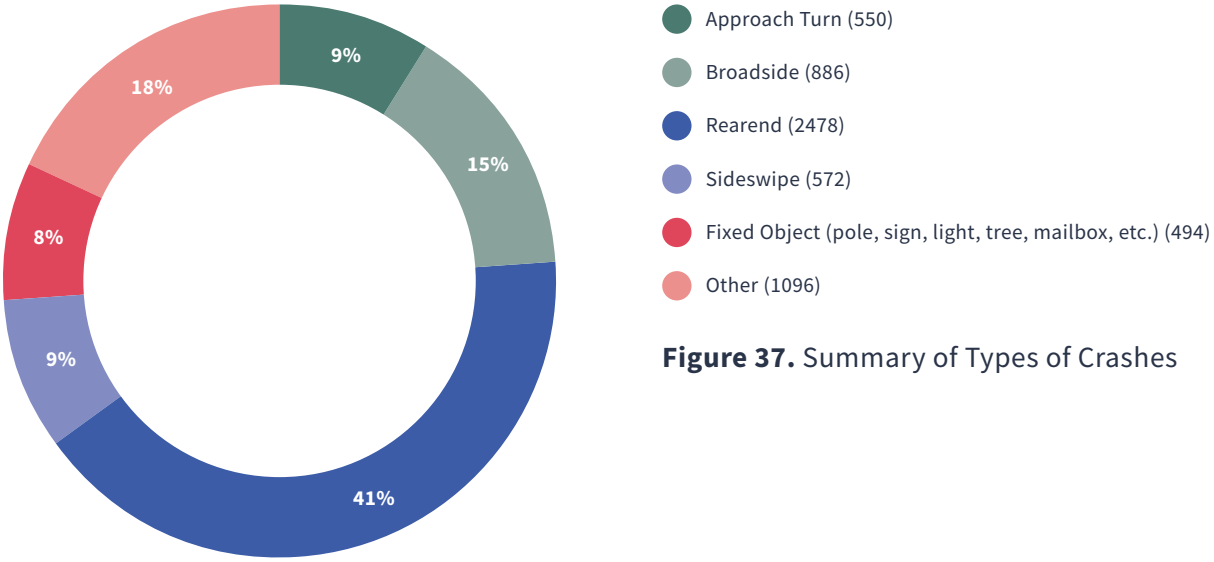


Figure 37. Summary of Types of Crashes

The map in **Figure 38** shows the areas with the highest density of crashes, weighted by severity (i.e. fatalities get more weight that injuries, which get more weight than Property Damage Only (PDO)). This map shows that the majority and most severe crashes are along arterial roadways—US-34 and US-287 in particular. There is a high density of crashes at the intersections of US-287 and 1st Street as well as US-287 and US-34. This concentration of crashes along these roadways is likely due to high speeds and traffic volumes.

TRAFFIC CRASHES, 2013 - 2017

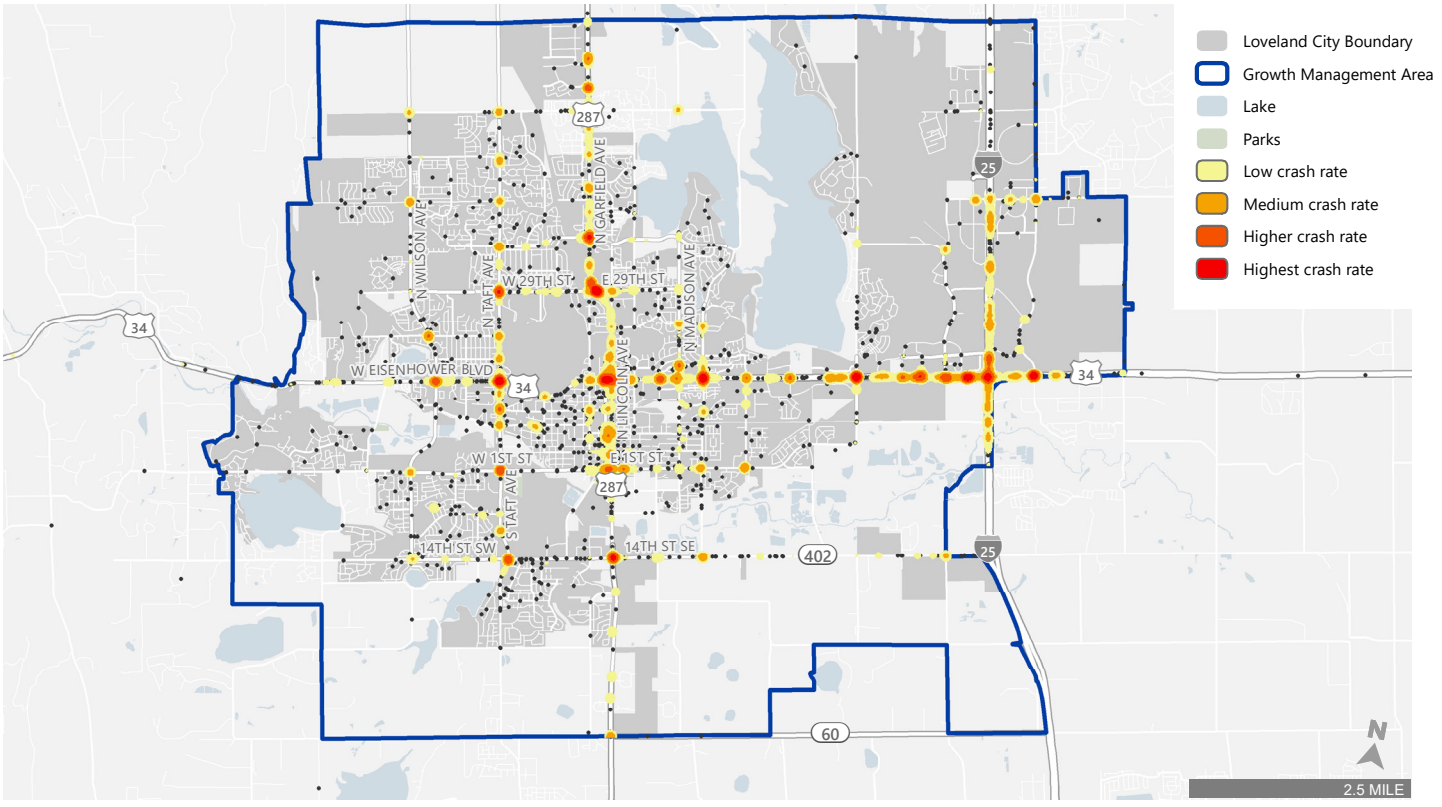


FIGURE 38: Traffic Crashes, 2013 - 2017

Between 2013 and 2018 there were 59 pedestrian-involved crashes and 179 bicyclist-involved crashes. Three of the pedestrian crashes and one bicycle crash resulted in fatalities. Pedestrian crashes have been steadily on the rise for the past six years, with a total of 5 pedestrian-related crashes in 2013 to a total of 20 crashes in 2018. The severity of crashes has also increased from 2013 to 2018. While greater in overall number, bicycle crashes consistently occur, with approximately 30 crashes per year. **Figure 39** shows the trends of bicycle and pedestrian crashes by severity from 2013 to 2018.

BICYCLE & PEDESTRIAN CRASHES

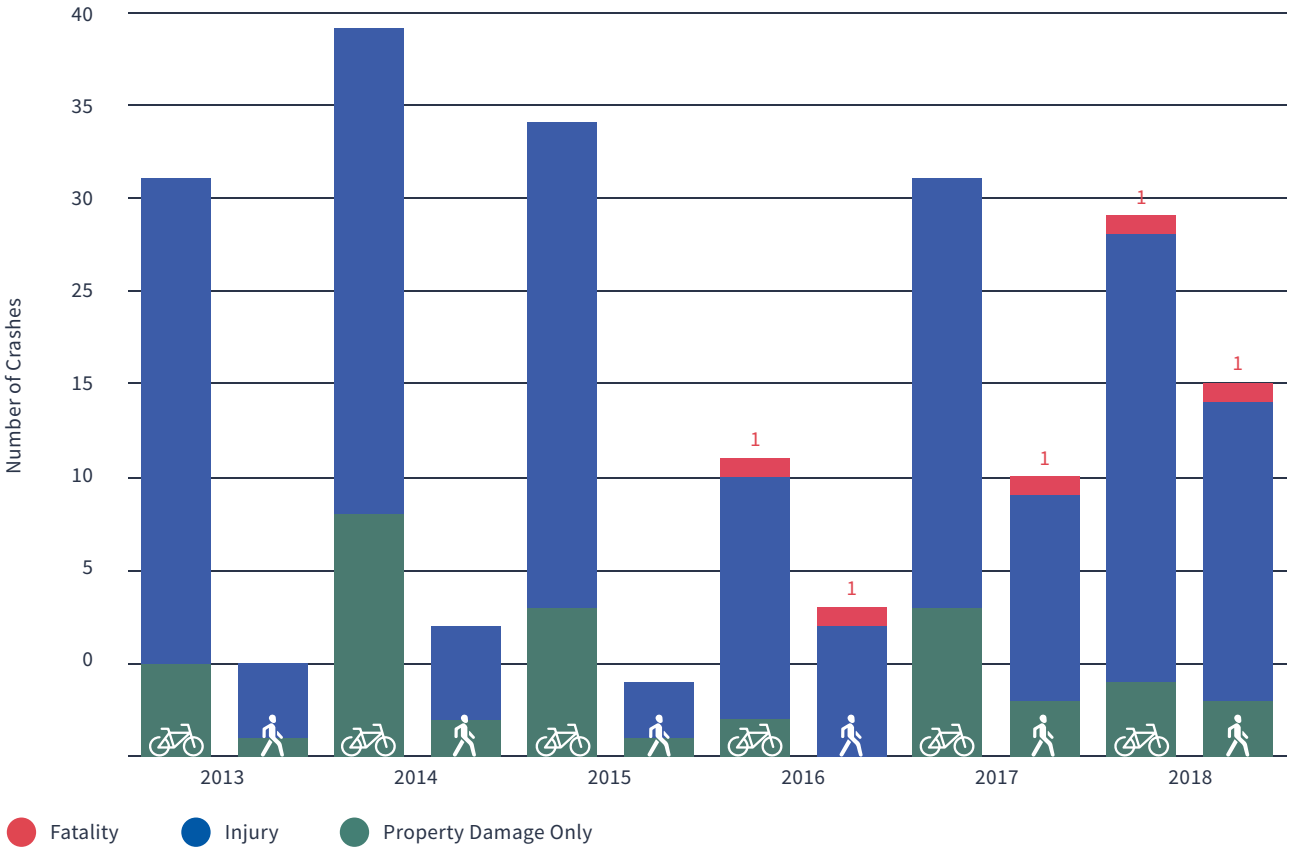


Figure 39. Summary of Bicycle and Pedestrian Crashes


SALE
15%

09 ENVIRONMENT

Natural features and their prospective impacts to the transportation system will be considered as part of the Connect Loveland planning process. Areas of concern include Boyd Lake and the Big Thompson River, both of which are adjacent to shared-use transportation facilities that could be impacted in the event of flooding.

The various bodies of water throughout Loveland create natural barriers to travel and present challenges for connecting a growing community, as shown in **Figure 40**. Loveland cannot create a true street grid due to these barriers. Some major roadways dead end at bodies of water, creating indirect travel routes. In addition, Loveland is crossed by US-34 and US-287, which bisect the city into four quadrants.

Loveland's location on the eastern edge of the Rocky Mountain foothills provides favorable topography for walking and bicycling. Bicycle trips throughout the city involve minimal elevation change, making Loveland an ideal cycling environment for a range of riders.

LAKES AND RESERVOIRS

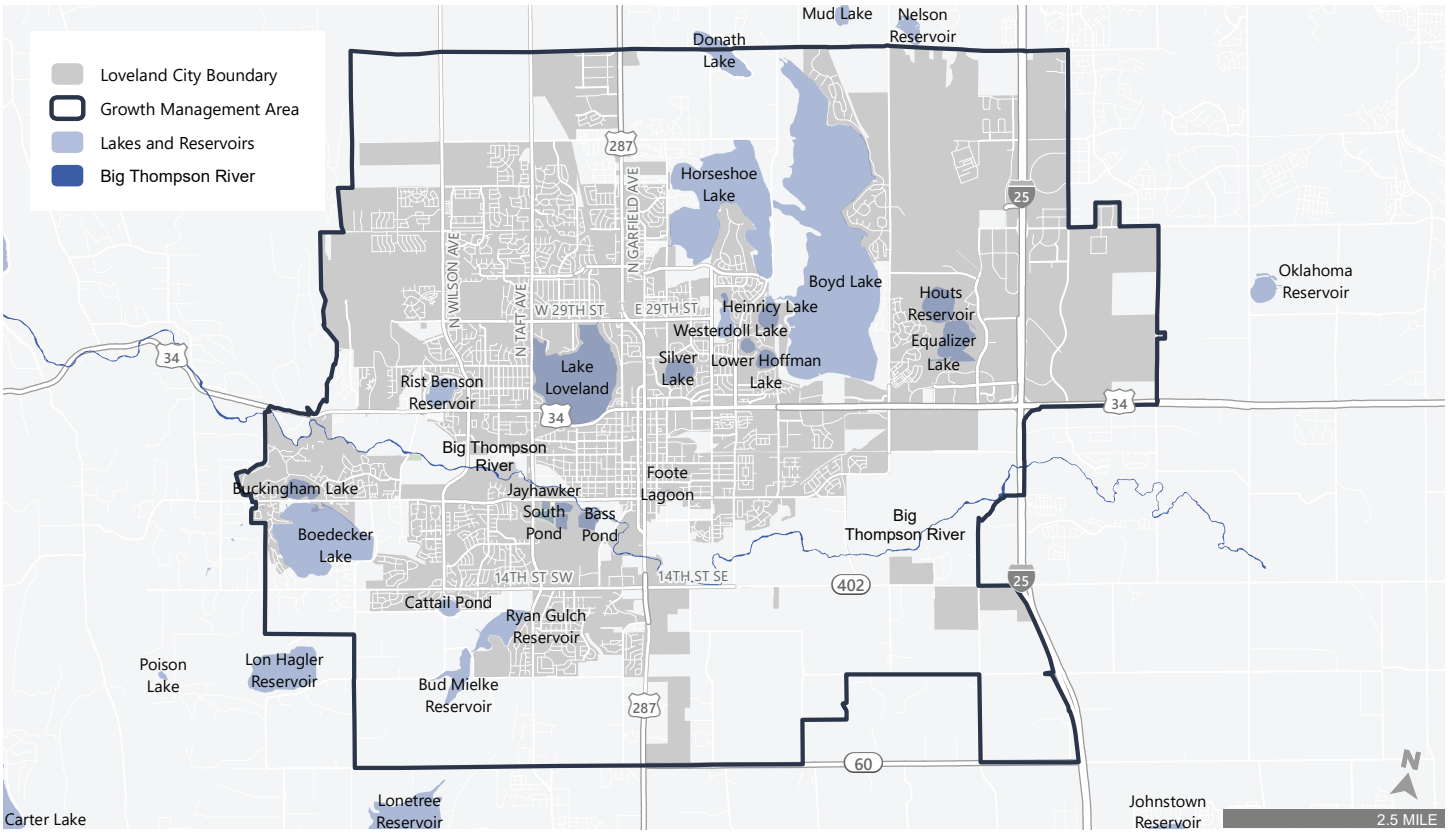


Figure 40. Lakes and Reservoirs

April 2019
Existing Conditions
Fehr & Peers

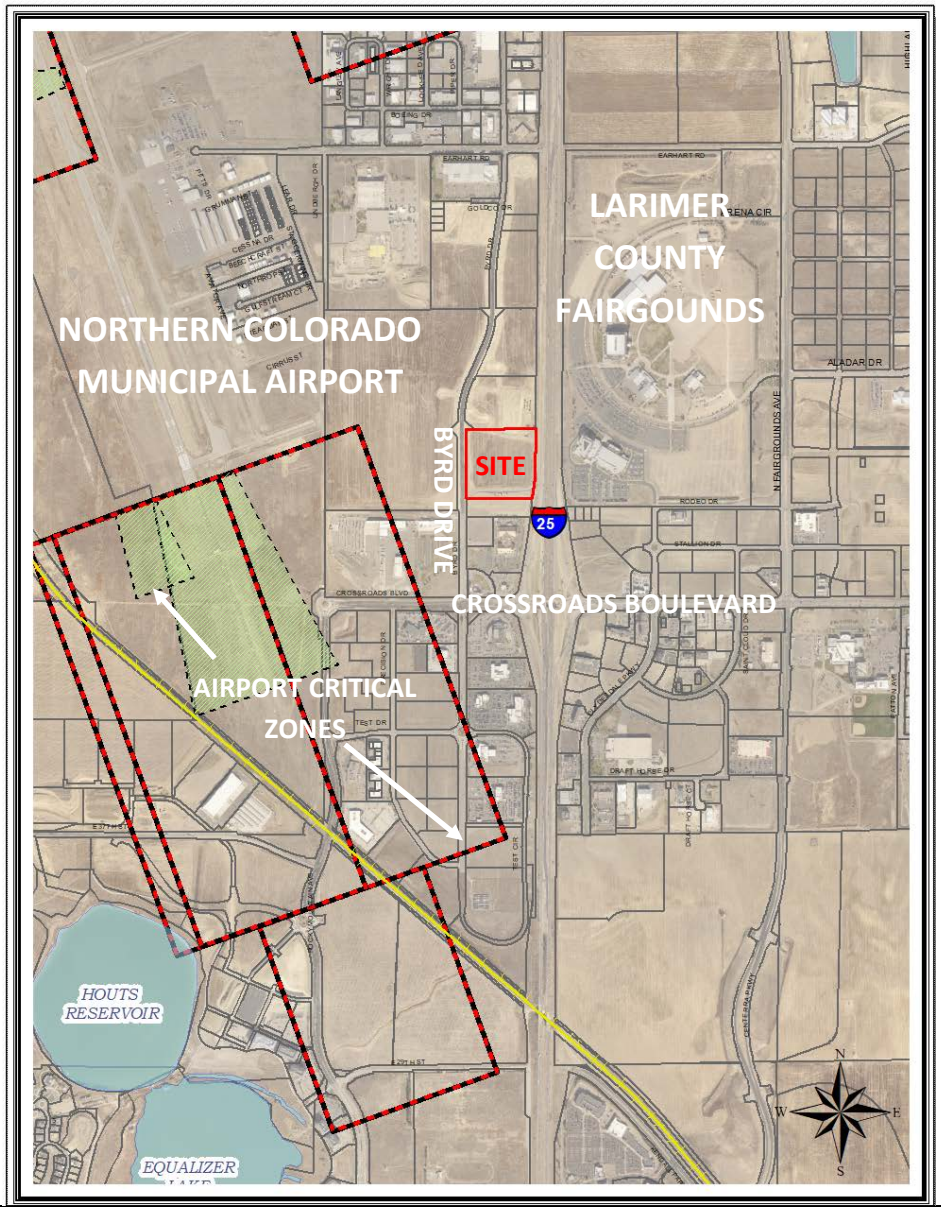
CURRENT PLANNING DIVISION
410 E. 5th Street | Loveland, CO 80537 | 970-962-2523
eplan-planning@cityofloveland.org | cityofloveland.org/DC

Planning Commission Staff Report

November 25, 2019

East Loveland Industrial 23rd Subdivision Conditional Use		
Agenda #: Regular Agenda 1	**PZ #19-00169**	**Conditional Use**
Location / Project Summary	West of I-25 and north of Crossroads Boulevard on the east side of Byrd Drive (vacant add acreage parcel directly north of Thunder Mountain). The property is zoned I-Developing Industrial. The request is for Conditional Use approval to allow a Heavy Logistics Center Use.	

VICINITY MAP



Development Review Team Recommended Motion

Recommended Motion(s):
Move to make the findings listed in this Staff Report dated November 25, 2019, and based on those findings approve the conditional use to allow a heavy logistics center for a portion of Tract B – East Loveland Industrial Addition, subject to the conditions listed under the Staff Recommendation.

Options	Consequence
Approve the Motion	Approval of the motion would allow the applicant to establish a heavy logistics center and begin operations once all permitting has been issued and tenant finish improvements have been completed. A heavy logistics center is generally either a wholesaling, warehousing, or distribution use expected to generate at least 12 truck trips per day.
Deny the Motion or take no action	Denying the motion would prevent the heavy logistics center at this location. Heavy logistics centers are only allowed through conditional use approval in the I – Developing Industrial and E – Employment zoning districts. Taking no action on the motion would cause further delay in the applicant's ability begin construction on the heavy logistics center.
Adopt a Modified Action	As an alternative, additional conditions could be added to the conditional use (based upon the findings) should the Planning Commission identify impacts that were not anticipated by City staff.
Refer back to Staff	If the item was referred back to staff, staff requests specific direction from the Planning Commission would need to be provided in reaching resolution on the requested heavy logistic center.

Project Summary

Purpose
The applicant is proposing the development of two flex industrial buildings (on separate lots), totaling approximately 195,000 square feet in the I – Developing Industrial zoning district. The property is undeveloped fronting along both I-25 and Byrd Drive just north of Crossroads Boulevard. The purpose of the Conditional Use is to allow an unrestricted level of semi-truck trips to occur on the two lots. The only way to accomplish this under the Unified Development Code (UDC: Division 18.19.03 – Heavy Logistic Center) is to classify the proposed flex industrial use as a "heavy logistics center". The proposed development is anticipated to operate more along the lines of light industry per Division 18.19.03 – Light Industry of the UDC, rather than a heavy logistics use. However, the development would be constructed as two spec buildings with no specific users determined. Therefore, in order to achieve the highest level of flexibility in terms of truck trips, a Conditional Use for a Heavy Logistic Center is being requested.

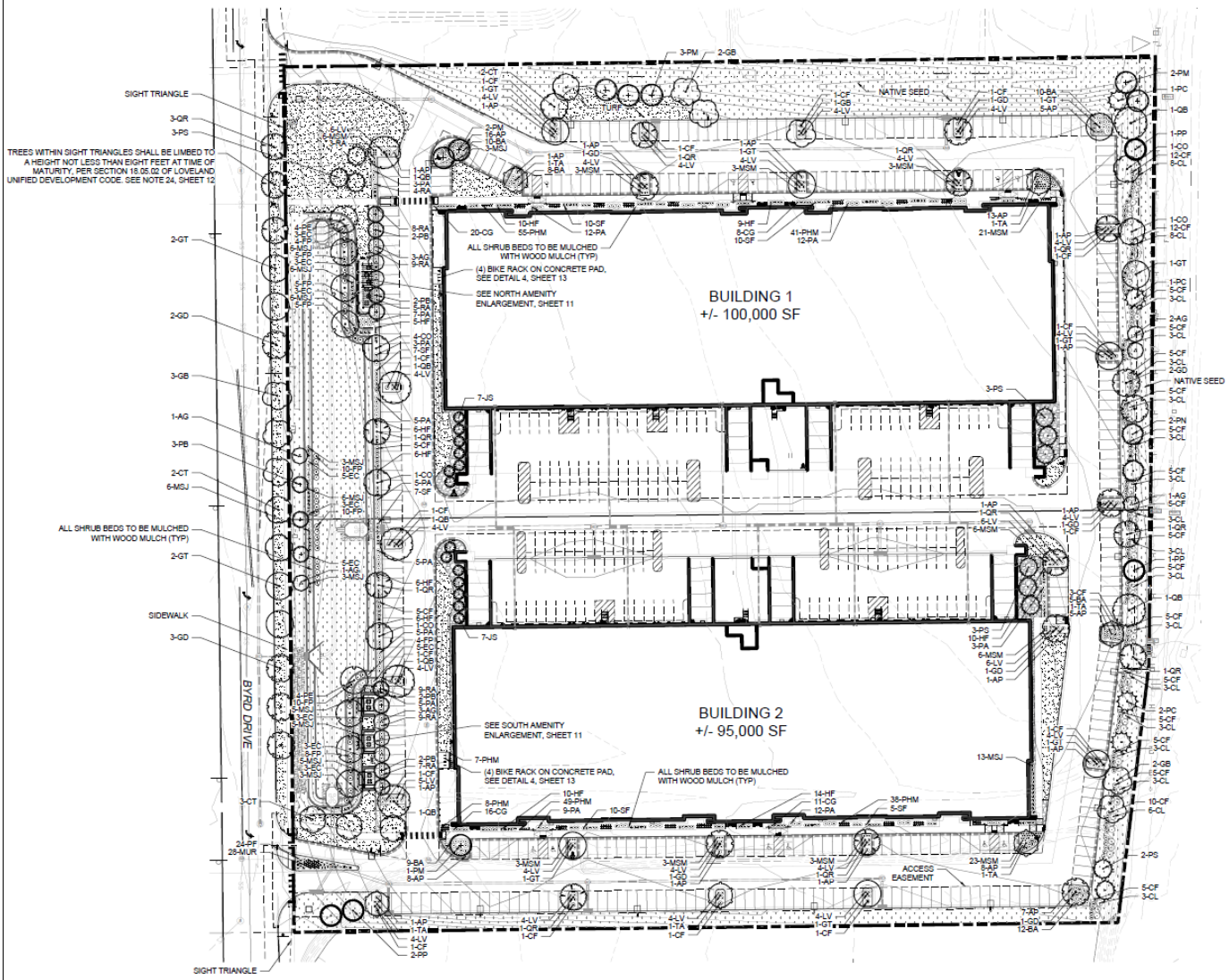
Site/Building Design
The site design is oriented with building fronts facing I-25, Byrd Drive and north/south property boundaries. This creates the potential for unrestricted truck courts between the two buildings, with the flexibility for adjusting loading docks to parking areas, depending upon the user needs. Each building would be on its own separate lot with primary ingress/egress to the site being shared at the northwest corner connecting Byrd Drive. A future round-a-bout is planned at this intersection but is not required to be constructed with this project. A limited (right-in, right-out, and left-in) secondary shared access is also provide at the southwest corner of the site connecting Byrd Drive. As part of

the considerations for a heavy logistics center, a truck routing plan is required. This information is provided in **Attachment C** (see Section 4.0 and Figure 7 with trip distributions). A majority of the traffic volume is to/from Crossroads Boulevard.

SITE AREA MAP

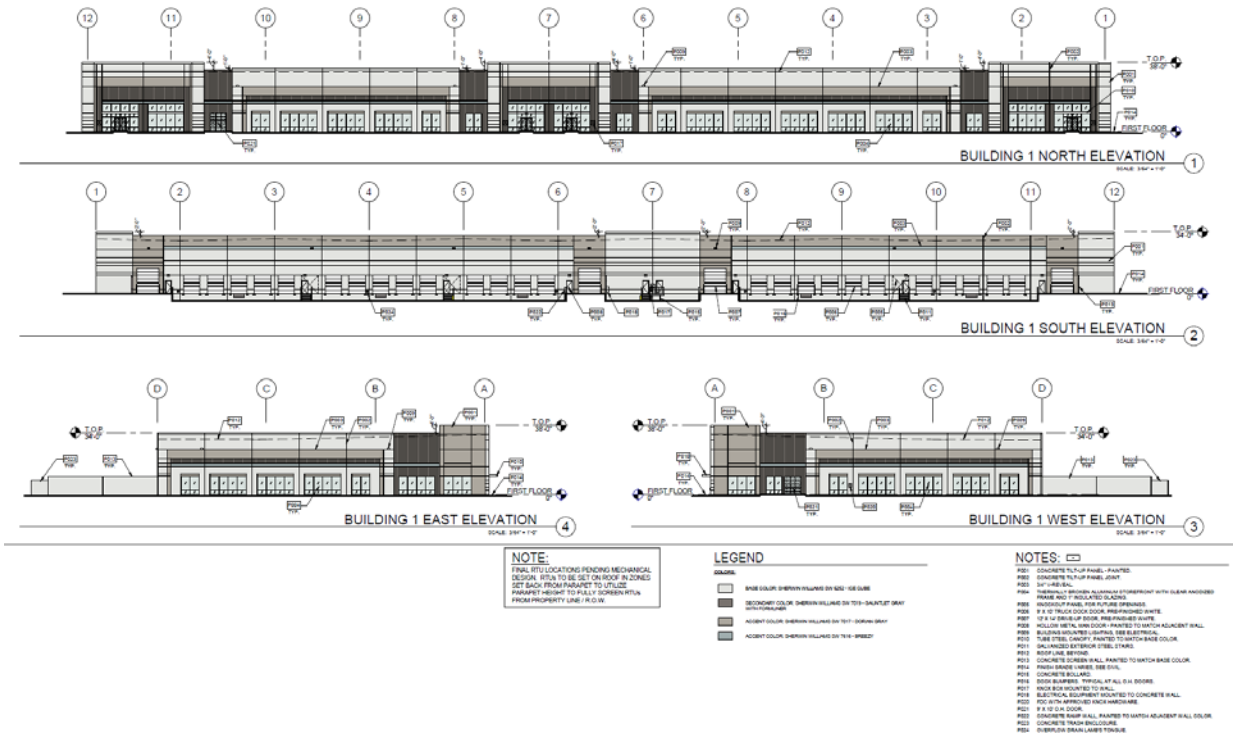
Landscaped bufferyards are provided facing both I-25 and Byrd Drive, in compliance with the City's Type C bufferyard requirements as well providing parking lot screening. On-site amenities including covered shelters, arbors, seating, and grilling areas are dispersed through the site, adding to the creation of a "campus style" development. All parking areas include appropriate landscape treatments such as islands spaced throughout and at ends of all parking rows. Foundation plantings to complement and provide texture to the buildings are provided at the east and west elevations. Given the amount of hard surface and building square footage, the landscape design was a critical component in addressing overall site design and the aesthetic aspects of the development. More than 20% of each lot is devoted to landscaped areas.

SITE PLAN WITH LANDSCAPE OVERLAY



The proposed buildings are tilt-up concrete structures with a maximum height of 38 feet and are roughly 180 feet in width by 560 feet in depth. The size creates a substantial amount of building mass. In order to reduce the significant visual aspect of the buildings, the ends of the buildings have been oriented towards I-25 and Byrd Drive help lessen the dominance, especially as seen from public rights-of-way. The buildings include projections/recesses, window treatments, and covered entries along all perimeters (excluding internal truck court). Variations in the roof-lines have also been included to enhance the design as well as screen all roof-top mechanical units. These architectural design features help break-up the massing of the buildings while complying with the City's industrial design standards.

TYPICAL BUILDING ELEVATION (NORTH BUILDING)



Attachments

Attachment A – Applicant's response to UDC use standards and compatibility narrative
Attachment B – Applicant's Community Participation Report
Attachment C – Transportation Impact Study (without appendices and tables)
Attachment D – East Loveland Industrial 23 Subdivision Conditional Use Site Development Plan

Applicant Information	Development Review Team Contacts
Applicant:	**Planner:** Troy Bliss
David Klebba	**Traffic Engineer:** Randy Maizland
Etkin Johnson Real Estate Partners	**LFRA:** Ingrid McMillan-Ernst
Property Owner:	**Stormwater:** Suzette Schaff
John Casale	**Power:** Mark Warner
Atrium Holding Company	**Water/Wastewater:** Chris Pletcher

Site Data	
Subdivision	East Loveland Industrial Addition
Land Area	14.4 acres
Proposed Buildings	195,000 square feet
Topography	The site is flat, sloping slightly from east to west
Access	Entering/existing the site from Byrd Drive
Water Provider	Fort Collins-Loveland Water District
Wastewater Provider	South Fort Collins Sanitation District
Power Provider	City of Loveland

Subject Property and Adjacent Property Designations			
	Existing Zoning	**Comprehensive Plan**	**Existing Land Use(s)**
Subject Property	I – Developing Industrial	Industrial	Undeveloped
Adjacent North	I – Developing Industrial	Industrial	Undeveloped
Adjacent South	I – Developing Industrial	Industrial	Motorcycle Sales/Training and Outdoor Venue
Adjacent East	I – Developing Industrial	Industrial	Interstate 25 and Larimer County Fairgrounds
Adjacent West	I – Developing Industrial	Industrial	Undeveloped

Relevant Zoning District Regulations		
I – Developing Industrial	**Required**	**Proposed**
Lot Area	1 acre	7.6 acres/6.8 acres
Lot Frontage	100 feet	294 feet/379 feet
Maximum Building Heights	50 feet maximum	38 feet
Maximum Lot Coverage	N/A	30.5%/32.3%
Minimum Building Setback:		
• **Front (Byrd Drive)**	25 feet	140 feet
• **Rear**	0 feet (depending on easements, bufferyards and building/fire code requirements)	North Building: 88 feet South Building: 86 feet
• **Side**	0 feet (depending on easements, bufferyards and building/fire code requirements)	North Building: 136 feet/100 feet South Building: 100 feet/100 feet
• **Street Side I-25)**	25 feet	North Building: 88 feet South Building: 86 feet
Minimum Parking Requirements (both buildings – shared parking):	-Warehouse: 1 space/1,000 square feet totaling 71 spaces -Office: 3 spaces/1000 square feet totaling 91 -162 total spaces -Accessible: 6 spaces	-175 total spaces -6 accessible spaces (including van accessible)
Bufferyards (I-25 and Byrd Drive)	Type C – 15 foot minimum width	Type C I-25: 30 feet (average) Byrd Drive: 84 feet

Neighborhood Outreach	
Notification	A neighborhood meeting was held on October 22, 2019, at the Development Center and began at 6:00 p.m. Property owners within a 250-foot radius from the subject site were notified by mail and a sign was posted on site at least 15 days in advance of the meeting. Additionally, notice for the Planning Commission hearing on November 25, 2019 was also mailed to property owners within a 250-foot radius of the site and a sign was posted at least 15 days in advance of the hearing.
Neighborhood Response	No neighborhood response has been provided. At the neighborhood meeting held on October 22, 2019, two guests attended and asked general questions about the development. Unanimous support was shared by attendees.

Planning Commission Findings for Approval or Denial

An application for conditional use approval may be approved if it is demonstrated that the proposal meets the specific use standards of Divisions 18.02.04.08 and 18.19.03, Use Standards identified below:

Criteria

Use Definitions

The UDC defines Heavy Logistics Centers as follows: A wholesaling, warehousing, or distribution use that provides a central location for receiving, storing and distributing raw materials, semi-finished goods, or finished goods. Heavy logistics centers may be warehouses in which goods are stored, or truck terminals in which goods are transferred between trucks or between trucks and trains or other transportation modes, or moving warehouses, or wholesaling operations (but not wholesale membership clubs in which memberships are available to the general public). Heavy logistics centers are expected to generate at least 12 truck trips per day. Warehousing and distribution uses that involve fewer than 12 truck trips per day are classified as light industry.

Per the UDC's definition of Light Industry (as specified in the last sentence of the Heavy Logistics Center definition above), a distribution center that involves less than 12 truck trips per day is categorized as a Light Industry. Light Industry is considered a less intensive use, and as such is a use by right in the I-Developing Industrial district.

Thus, the use of a property zoned I-Developing Industrial for a distribution center is considered a Use by Right if the volume of semi-trailer truck trips is limited to less than 12 per 24-hour period, and a Conditional Use if it is involves 12 or more semi-trailer truck trips per 24-hour period.

The definition section of the UDC further clarifies that only semi-trailer truck trips are counted towards the 12 truck trips per day distinction; van, light truck, and car trips are not utilized to assess whether a distribution center falls under the Heavy Logistics Center or the Light Industry definition.

Use Standards

Heavy Logistics Center:

1. Location. The subject property shall not adjoin a property that is zoned or used for residential purposes.
2. Access. The use shall be located such that trucks have direct access to an arterial or collector street, or to a local street that is only used for industrial purposes.
3. Buffering. A type C bufferyard shall be installed along arterial street or state or federal highway frontages.
4. Truck Routing Plan. A truck routing plan is required.

In addition to needing to meet all generally applicable UDC standards, uses categorized as Conditional, Limited, or Adaptable are subject to additional UDC *Use Standards*. The Heavy Logistics Center Use Standards are described in the Planning Commission Findings section of this report. In order to approve a Conditional Use, the Planning Commission shall find that the proposal meets both the Use Standards specific to Heavy Logistics Centers and the conventional Conditional Use standards, also described under the Planning Commission Findings section of this report. Through the

staff review of the associated Site Development Plan, Construction Plans, Site Work Permit, and Building Permits, staff will ensure that all other Municipal Code requirements relevant to the development are met.

The applicant has demonstrated that the proposed conditional use meets the above criteria.

Analysis:

- *The location of the subject property does not adjoin a property that is zoned or used for residential purposes.*
- *Trucks entering/exiting the site shall have direct access to Byrd Drive which is a designated as an arterial street per the City's 2035 Transportation Plan.*
- *Type C bufferyards are provided along both I-25 and Byrd Drive frontages.*
- *A truck routing plan was provided in conjunction with the Transportation Impact Study.*

Pursuant to Section 18.02.414 of the City of Loveland Unified Development Code, an application for conditional use approval may be approved if, in addition to the specific standards of this Division 18.02.04, Use Standards, that apply to the proposed use, it is demonstrated that:

Criteria

B. 1. The proposed conditional use in its proposed location will not tend to frustrate the implementation of current adopted plans of the City, including, but not limited to, the Comprehensive Plan.

The applicant has demonstrated that the proposed conditional use meets the above criteria.

Analysis: The Create Loveland Comprehensive Plan designates the subject property and all surrounding areas as "Industrial" uses. As a high employment generator with minimal externalities, a Heavy Logistics Center is appropriate for areas so designated. See the Create Loveland Comprehensive Plan summary in the section below for a more detailed description. The proposed use on the subject property is not anticipated to negatively impact the ability to develop surrounding industrial uses. Rather, the proposed use is intended to be complementary to industrial uses.

B. 2. The location, size, design and operating characteristics of the proposed conditional use will be consistent with or complementary to the existing and future land uses within the surrounding neighborhood and will not create significant noise, traffic, or other conditions that may be objectionable or detrimental to other permitted uses in the vicinity.

The applicant has demonstrated that the proposed conditional use meets the above criteria.

Analysis: The proposed use is an appropriate industrial use of which, noise or other externalities created would be similar to other permitted uses in the vicinity and not anticipated to be detrimental.

B. 3. The proposed conditional use will not negatively impact the land use patterns of existing or approved development within the neighborhood or discourage permitted uses or reinvestment in permitted uses by making the vicinity less desirable for them.

The applicant has demonstrated that the proposed conditional use meets the above criteria.

Analysis: The establishment of a Heavy Logistics Center, which is a type of industrial land use, in an area designated for industrial uses is not anticipated to negatively impact existing or approved development, or discourage permitted uses, within the area. The proposed use for the subject property will be quite similar in nature to existing and permitted land uses in the area.

B. 4. The proposed conditional use is consistent with the standards in the UDC, as amended, and meets the requirements in Chapter 18.15 Adequate Community Facilities.

The applicant has demonstrated that the proposed conditional use meets the above criteria.

Analysis: No application for development approval shall be approved unless a positive determination of adequacy or a positive determination of adequacy subject to conditions has been made by the City in accordance with Chapter 18.15 Adequate Community Facilities.

This application has been reviewed by the City's Development Review Team (DRT) which has concluded that a positive determination of adequacy subject to conditions can be made. The conditions are provided below under the staff recommendation.

PW-Transportation:

- This project complies with the Adequate Community Facilities Standards in the Unified Development Code.
- The proposed development will have primary access from Byrd Drive. The development will also construct a 6-foot detached sidewalk along Byrd Drive.
- *A Traffic Impact Study (TIS), prepared by Kimley Horn, has been submitted with the Byrd Drive - Loveland Industrial SDP which demonstrates that the existing transportation system, can adequately serve the proposal.*
- *Access to the development will be provided by a full movement access near the north property boundary on Byrd Drive and a 3/4 restricted movement access near the south boundary on Byrd Drive.*
- T*he TIS has demonstrated that the proposed accesses and nearby intersections will operate acceptably within ACF standards in the short range.*
- *The development is estimated to generate approximately 802 daily trips, 73 weekday AM peak hour trips, and 59 weekday PM peak hour trips.*

In conclusion, the development of the subject property pursuant to any of the uses permitted by right under the zoning district will not adversely impact any existing City infrastructure. A positive determination of adequacy for transportation facilities for the proposed application has been made.

Fire:

Staff believes that this finding can be met, due to the following:
The development site will comply with the requirements in the ACF Ordinance for response distance requirements from the first due Engine Company.

- *The proposed development will not negatively impact fire protection for the subject development or surrounding properties.*
- *When approved the fire code requirements pertaining to site access and water flow will be satisfied.*

Water/Waster:

This development is located within the Fort Collins-Loveland Water District and South Fort Collins Sanitation District. The City has no concerns regarding the development.

Storm:

Staff believes that this finding can be met, due to the following:

- *The proposed development meets all applicable requirements contained in the City of Loveland Storm Drainage Criteria.*
- *The proposed development provides for adequate major drainage facilities to convey stormwater flows from a one hundred year storm event which will minimize property damage.*
- *Sufficient stormwater utility facilities are available to serve the subject property, while maintaining sufficient levels of service to existing development.*
- *The proposed development meets all applicable drainage requirements of the City.*

Power:

This development is situated within the City's current service area for power. The Department finds that the Development will be compliant to ACF for the following reasons:

- *The proposed development will not negatively impact City power facilities.*
- *The proposed public facilities and services are adequate and consistent with the City's utility planning and provides for efficient and cost-effective delivery of City power.*

B. 5. The design, operation, location, and buffering of the use mitigates its impacts with regard to:

a. Risks associated with the use and storage of hazardous materials; or
b. Potentially hazardous conditions, such as projectiles leaving the subject property; and
c. Odors;

d. Dust;
e. Lighting;
f. Vibration; and
g. Noise.

The applicant has demonstrated that the proposed conditional use meets the above criteria.

Analysis: The proposed use is for a Heavy Logistics Center, accommodating a variety of flex industrial uses. Hazardous materials, such as those associated with heavy industrial uses, are not a part of the operation. With no manufacturing activities occurring, projectiles, odors, dust, lighting, vibration, and noise are not anticipated to be emitted from the building to a greater extent that the other light industrial uses that dominate in the immediate area. A lighting plan for the exterior of the property was submitted. It meets the UDC's light standards.

B. 6. There is a demonstrated need in the City for the conditional use, in order to serve demands created by City residents.

The applicant has demonstrated that the proposed conditional use meets the above criteria.

Analysis: The establishment of an employment generating use may provide work opportunities for city residents. The goods distributed by the proposed use may serve a demand for such goods by residents.

Planning Commission Comprehensive Plan Policy Guidance for Approval or Denial	
In considering an application for approval or denial the Planning Commission finds that the application either complies or does not comply with the following goals, and policies within the City of Loveland Comprehensive Plan:	
Create Loveland	Land Use Designation: Industrial • Provides locations for a wide range of industrial uses and related services, where appropriate; avoid residential, restaurant, and retail encroachment. • Ranges from attractive light industrial/office uses to less attractive heavy industrial and uses with outdoor storage • Concentrated in the vicinity of the Airport and the Crossroads/I-25 area. • Industrial locations typically provide direct access to major highways.

Staff Recommendation

City staff is recommending conditional approval of the conditional use application subject to the following conditions:

Current Planning

1.This Conditional Use shall be contingent upon approval and recordation of the East Loveland Industrial 23rd Subdivision.

PW-Transportation

1. All public improvements shall comply with the Larimer County Urban Area Street Standards (LCUASS).

2. The developer agrees to acquire and dedicate, at no cost to the City, any rights-of-way necessary for the required street improvements associated with this development.

3. Prior to the issuance of any building permits on Lots 1 & 2, Byrd Drive -- Loveland Industrial Subdivision, pursuant to the Unified Development Code of the City Municipal Code, the Developer shall design and construct the following public improvements unless already designed and constructed by others:

a) All public improvements on Byrd Drive including accesses, turn lanes and sidewalk as shown on the City approved Public Improvement Construction Plans.

4. City signed Site Development Plans (including any associated Public Improvement Construction Plans), or the issuance of building permits, does not allow any construction within public street or alley rights-of-way or pedestrian easements. A separate City Development Construction Permit and Street right-of-way (ROW) Work Permit must be obtained by the Developer and/or his Contractor at the City Project Engineering office (and approved by Project Engineering) prior to any repair or construction of sidewalk, curb and gutter, driveway accesses, or any other construction in City street or alley rights-of-way or pedestrian easements, (this includes all items proposed in rights-of-way such as utility street cuts, sidewalk ramps, construction staging proposed in street, landscaping, traffic control, etc.). (Call 970-962-2771 to discuss details to obtain a ROW Work Permit).

5. Prior to the commencement of any construction activity that will involve any existing or proposed street signs or traffic control devices for or within public street rights-of-way (ROW), the Developer and/or his Contractor shall contact the City Traffic Division at (970) 962-2535 to coordinate the removal, relocation, installation, and/or proper storing of the sign(s) or traffic control device(s) and obtain a ROW work permit from the City Public Works Engineering Division to do such work. However, if the Developer and/or his Contractor removes or relocates any existing street sign(s) or traffic control device(s) for or within the public ROW without first obtaining a ROW work permit from the City Public Works Division, then the contractor will be charged for the labor, materials, and equipment to reinstall the sign(s) or traffic control device(s) as deemed necessary by the City. The Developer and/or his Contractor will also be charged to replace any existing street signs or traffic control devices that were damaged or blemished during any construction activity as deemed necessary by the City. The Developer and/or his Contractor may also be subject to additional fines as per the Loveland Municipal Code.

6. The Developer and/or his Contractor shall contact the Public Works Street Inspector to discuss the proposed work and schedule necessary inspections prior to any construction activity within a street or alley right-of-way or pedestrian easement.

7. All trees, shrubs, and other plant materials located within clear sight triangles shall be trimmed in accordance with the requirements of Section 7 of the Larimer County Urban Area Street Standards (LCUASS). Under current LCUASS requirements, trees shall be limbed to a height of not less than eight (8) feet and shrubs and other plant materials shall be maintained at a height of not more than thirty (30) inches, and said maintenance shall be conducted in perpetuity. Trees are also required to be kept limbed up a minimum of 8’ above all street sidewalks.

East Loveland Industrial Twenty-Third Subdivision
Conditional Use Assessment Report

Conditional Assessment Report demonstrating compliance with the following:

a. Use Standards: List the applicable use standards in UDC Section 18.02.04 and describe how each standard will be met.

Heavy Logistics Center. Heavy logistics center uses shall comply with the following standards, in addition to all other applicable standards in the UDC:

1. Location: The subject property shall not adjoin a property that is zoned or used for residential purposes.

Response: *There are no properties zoned or used for residential purposes adjoining the subject property. All adjoining properties are similarly zoned as FZO – Flexible Zoning Overlay – Developing Industrial, or I – Developing Industrial.*

2. Access: The use shall be located such that trucks have direct access to an arterial or collector street, or to a local street that is only used for industrial purposes.

Response: *Access to the site is provided along Byrd Drive, which is designated as a 2-lane minor arterial.*

3. Buffering: A type C buffer yard shall be installed along arterial street or state or federal highway frontages.

Response: *The landscape design in the Site Development Plan has met or exceeded the plantings required for a Type C buffer yard on the west side along Byrd Drive and the east side along I-25.*

4. Truck Routing Plan: A truck routing plan is required.

Response: *A truck routing plan has been provided in the SDP submittal. Trucks will be routed south on Byrd Drive to Crossroads Boulevard and east out to I-25.*

Pursuant to UDC Section 18.02.414, the following describes how each of the standards will be met.

b. Consistency with City Plans. Describe how the proposed conditional use in its proposed location will not tend to frustrate the implementation of any current, adopted plans of the City, including but not limited to, the Comprehensive Plan, US 34 Corridor Plan, and the 287 Strategic Plan.

Response: *The proposed heavy logistics project is projected to operate in a way that will not impede with any current adopted plans of the city. The Create Loveland Comprehensive Plan Future Land Use Plan Map designates the subject property for "Industrial" uses. Primary uses for the Industrial Category include employment, light and heavy industrial, and outdoor storage uses. Chapter 3, p. 21. The Comprehensive Plan further states that the City should "reserve industrial lands for future primary jobs […] and protect them from encroaching conflicting uses." Chapter 2, p. 27. As a high employment generator with minimal externalities, a Heavy Logistics Center is appropriate for this industrial area. While this is being designated as heavy logistics, this has not been designed as a heavy distribution center. The tenants that we are targeting are companies looking for flex office space that will not be dependent on large quantities of truck deliveries.*

c. Compatibility. Describe how the location, size, design and operating characteristics of the proposed conditional use will be consistent with and/or complimentary to the existing and future land uses within the surrounding neighborhood, and will not create significant noise, traffic, or other conditions that may be objectionable or detrimental to other permitted uses in the vicinity.

Response: *With the design of this project being 2 spec buildings, the exact number of truck trips per day has not been established. The design of these buildings lead to smaller tenants that would not likely create a large number of daily truck traffic. The two buildings on this property are designed to have the truck docks face inward towards the center of the site, with no dock doors facing neighboring properties. Dock parking will be screened with screen walls along Byrd Drive and I-25. As there are no manufacturing or other such intensive uses proposed to occur on the subject property, there are no noise or other externalities of the operation that ae anticipated to be detrimental to other permitted uses in the vicinity. The operations should be consistent with future developments in the neighboring developing industrial zoned properties.*

d. Impacts on Land Use Patterns. Describe how the proposed conditional use will not negatively impact the land use patterns of existing or approved development within the neighborhood or discourage permitted uses or reinvestment in permitted uses by making the vicinity less desirable for them.

Response: *The proposed heavy logistics use is in an area that is conveniently located for easy truck access off I-25 and Crossroads Blvd. It is located in area where surrounding properties are zoned for developing industrial.*

e. Compliance with the UDC. Describe how the proposed conditional use is consistent with the standards in the UDC and meets the requirements in Chapter 18.15 Adequate Community Facilities.

Response: *The proposed development with the conditional use is in an area that will help facilitate truck traffic with easy access to I-25 The traffic impact study provided with the submittal indicates that the development meets City level of service standards and will not have a negative impact on the existing street network. The buildings will set a high quality design precedent for future buildings on adjacent sites. This will provide a new service to this area that is currently not available.*

- *Fire – The proposed development will comply with the requirements in the ACF Ordinance for response distance requirements from the first due Engine Company.*
- *Water / Wastewater – This development is situated within the City's current service area for both water and wastewater. The development will not frustrate the implementation of the current water and wastewater master plan and meets the requirements of ACF per the UDC.*
- *PW-Stormwater – The proposed development meets all applicable requirements contained in the City of Loveland Storm Drainage Criteria. The proposed development provides for adequate drainage facilities to convey stormwater flows from a one hundred year storm event which will minimize property damage.*
- *Power – The proposed development is situated within the City's current service area for power. The proposed development is consistent with the ACF because it will not negatively impact City power facilities and because the proposed public facilities and services are adequate and consistent with the City's utility planning and provides for efficient and cost-effective delivery of City power.*

f. Mitigation of Impacts. Describe how the design, operation, location, and buffering of the use mitigates its impacts with regard to:

i. Risks associated with the use and storage of hazardous materials; or
ii. Potential hazardous conditions, such as projectiles leaving the subject property; and
iii. Odors;
iv. Dust;
v. Lighting
vi. Vibration; and
vii. Noise

Response: *The proposed development will not create these types of impacts on the site. Hazardous materials, such as those associated with heavy industrial uses, are not a part of the operation. With no manufacturing activities occurring, projectiles, odors, dust, lighting, vibration, and noise are not anticipated to be emitted from the building to a greater extent than any other light industrial use in the area. A lighting plan for the exterior of the building was submitted. It meets the UDC's light standards .*

g. Demonstrated Need. Describe how there is a demonstrated need in the City for the conditional use, in order to serve demands created by City residents.

Response: *The proposed facilities with conditional use will provide a flexibility to future tenants to bring businesses to these two buildings that are consistent with light industrial, but could potentially require more truck trips per day than the UDC limitation of 12 per day.*

ETKIN JOHNSON
REAL ESTATE PARTNERS

November 8, 2019

City of Loveland
Current Planning, Development Services Department
Senior Planner
410 East 5th Street
Loveland, Colorado 80537
Attention: Mr. Troy Bliss

Dear Mr. Bliss,

A Neighborhood Outreach Meeting was conducted on October 22, 2019 to present the East Loveland Industrial Twenty-Third Subdivision project (PZ #19-00169 & PZ#19-00171). The purpose of the meeting was to address the City of Loveland's conditional approval to change the zoning from Industrial to Heavy Logistics Industrial. Although the proposed project is really a flex office/industrial project with generally limited truck traffic (i.e.- not a distribution center), the Owner cannot be limited to the truck traffic restrictions the zoning currently restricts the project to.

Property Owners directly north and south of the proposed project attended the meeting. This included Todd Erdmann, Owner of Thunder Mountain Harley-Davidson (directly to the south) and Colton Lind, Principal of Water Valley Land Company (directly to the north). Both property owners were interested in learning more about the project and its intended use. The Owner walked the neighbors through the building configuration describing that this is a front-park/rear-load product that generally has a limited amount of heavy truck traffic that enters into and out of the site on a daily basis. The Owner described tenant profiles that are located in similar owned buildings throughout the Denver-metro area. The architectural elements and ingress/egress of the project were also presented and reviewed.

Once the neighbors understood that the proposed development was not a distribution center type of product with exceptional truck traffic, their concerns were addressed. They stated that they were willing to endorse the project at the end of the presentation. It was the Owner's takeaway that no further action was required to specifically address their concerns.

Sincerely,

Dave Klebba
Vice President of Development, Partner

PC ATTACHMENT B

1512 Larimer Street, Suite 100 (Bridge Level), Denver, CO 80202 P 303.629.5212 E info@etkinjohnson.com www.etkinjohnson.com

EAST LOVELAND INDUSTRIAL 23RD SUBDIVISION	NEIGHBORHOOD MEETING	22-Oct-19
name	address	phone or email
TODD KROMANN	4250 BYRD DRIVE	TODD@TMHARLEY.COM
Colton Lind	4350 Byrd Dr	clind@watervalley.com

PC ATTACHMENT B

Traffic Impact Study

Byrd Drive Industrial
Loveland, Colorado

Prepared for:

Ware Malcomb

Kimley»Horn

PC ATTACHMENT C

T R A F F I C I M P A C T S T U D Y

Byrd Drive Industrial

Loveland, Colorado

Prepared for
Ware Malcomb
45 West 2nd Avenue
Denver, CO 80223

Prepared by
Kimley-Horn and Associates, Inc.
4582 South Ulster Street
Suite 1500
Denver, Colorado 80237
(303) 228-2300

September 2019

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1.0 EXECUTIVE SUMMARY

Byrd Drive Industrial is a proposed industrial development to be located along the north side of the previous I-25 NW Frontage Road after the curve from Byrd Drive, approximately 1,300 feet north of Crossroads Boulevard, in Loveland, Colorado. Byrd Drive Industrial is anticipated to include two buildings totaling approximately 196,200 square feet of building space. It is expected that the project will be completed by 2020; therefore, analysis was conducted for the 2020 short term horizon as well as the 2040 long-term horizon.

The purpose of this traffic study is to identify project traffic generation characteristics and potential project traffic related impacts on the local street system, as well as to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with City of Loveland and State of Colorado Department of Transportation (CDOT) standards and requirements:

- Earhart Road and Byrd Drive
- Crossroads Boulevard and Byrd Drive

In addition, the two (2) proposed project accesses along the east side of Byrd Drive were also included for evaluation.

Regional access will be provided by Interstate 25 (I-25) and Eisenhower Boulevard (US-34). Primary access to the site will be provided by Crossroads Boulevard, Earhart Road, and Rocky Mountain Avenue. Direct access to the project is proposed from two accesses along the east side of Byrd Drive. The north project access is proposed to allow full turning movements. In the future, this may be a roundabout intersection with site access being the east leg. The proposed roundabout T-intersection is to be located approximately 2,000 feet north of the Byrd Drive and Crossroads Boulevard intersection (measured center to center). The south project T-intersection access is proposed as a three-quarter movement access with restricted left-out movements to be located approximately 1,300 feet north of the Byrd Drive and Crossroads Boulevard intersection (measured center to center).

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Byrd Drive Industrial is expected to generate approximately 802 daily weekday trips with 73 of these trips occurring during the weekday morning peak hour and 59 trips occurring during the weekday afternoon peak hour.

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, anticipated surrounding development in the area, and the proposed access system for the project. Assignment of project traffic was based upon the trip generation described previously and the distributions developed.

Based on the analysis presented in this report, Kimley-Horn believes the proposed Byrd Drive Industrial development will be successfully incorporated into the existing and future roadway network. The proposed project development and expected traffic volumes resulted in the following recommendations and conclusions:

- With completion of the Byrd Drive Industrial development, the site proposes two new access locations along the east side of Byrd Drive. The north access is proposed to allow full turning movements and be located approximately 2,200 feet north of Crossroads Boulevard (measured center to center) while the south access is proposed from a new three-quarter access T-intersection with restricted left turn exiting movements to be located approximately 1,300 feet north of the Byrd Drive and Crossroads Boulevard intersection (also measured center to center). Both accesses are recommended to have R1-1 “STOP” signs installed for the westbound exiting approaches. The westbound exiting approach at the south access will restrict westbound to southbound left turning movements onto Byrd Drive. To provide signage for the proposed three-quarter restricted accesses, it is recommended that R3-2 No Left Turn sign be placed underneath the STOP sign. One exiting lane should be sufficient at both access locations along Byrd Drive.

- According to Larimer County Urban Area Street Standards Figure 8-4, right turn lanes are required along 2-lane arterials with a speed limit of 45 miles per hour when the volume of right-turns during the peak hour exceeds 40 vehicles per hour if the adjacent through volume is greater 500 vehicles per hour. Based on this, neither access warrants a separate right turn lane for either the 2020 and 2040 horizons. However important to note, the eastbound and northbound approaches to the Earhart Road and Byrd Drive intersection

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currently warrant right turn lanes based on existing traffic volumes. Based upon Figure 8-2 within Larimer County Urban Area Street Standards, new southbound left turn lanes will be needed at both accesses along Byrd Drive and should be constructed with lengths of 235 feet plus 200-foot tapers.

- With development of this project, it is anticipated that new sidewalk will be constructed along the east side of Byrd Drive adjacent to project frontage. This sidewalk should provide a connection to the existing sidewalk along Byrd Drive to provide a connection to the Crossroads Boulevard signalized intersection.

- Byrd Drive is classified as a minor arterial roadway within the City of Loveland 2030 Transportation Plan. All roadway segment links studied within this report are expected to be within ACF compliance for both peak hours studied in 2020 and 2040 with the addition of project traffic.

- By the year 2040, if future volumes are realized, the intersection of Byrd Drive and Earhart Road may operate unacceptably during peak hours. It is recommended that either a roundabout or traffic signal be constructed at this intersection in the long-term horizon. If a roundabout is implemented, single lane approaches are recommended on all four roundabout legs. If signalization is implemented at this intersection, it is recommended that a southbound left turn lane be designated. There is currently sufficient pavement width to stripe this left turn lane without widening the southbound approach to this intersection.

- Vehicle queues may extend beyond existing turn lanes at several locations during the peak hours in 2040. By the 2040 long term horizon, southbound left turn queues may exceed the existing 300-foot storage length at the intersection of Crossroads Boulevard and Byrd Drive. However, this storage length cannot be further extended due to the existing back-to-back left turn lane that exists for the US Energy Department driveway located along the west side of Byrd Drive. Southbound dual left turn lanes may need to be provided at the Crossroads Boulevard and Byrd Drive intersection in the long-term future to prevent long vehicle queues if the need arises. It is recommended that vehicle queues be further studied by the long-term horizon to determine if existing turn lanes lengths are sufficient for future traffic volumes.

- To improve overall operations at the intersection of Byrd Drive and Crossroads Boulevard, it is recommended that the southbound left turn movement operate with protected-permissive phasing in the year 2040.

- By 2040, it is anticipated that the northern full movement access will be a roundabout based on discussions with City Staff. The east leg will be incorporated as the site access. The proposed roundabout T-intersection is recommended to provide a single lane on all approaches.

- Any on-site and off-site signing and striping improvements should be incorporated into the Civil Drawings and conform to City of Loveland and CDOT Standards as well as the Manual on Uniform Traffic Control Devices – 2009 Edition (MUTCD).

2.0 INTRODUCTION

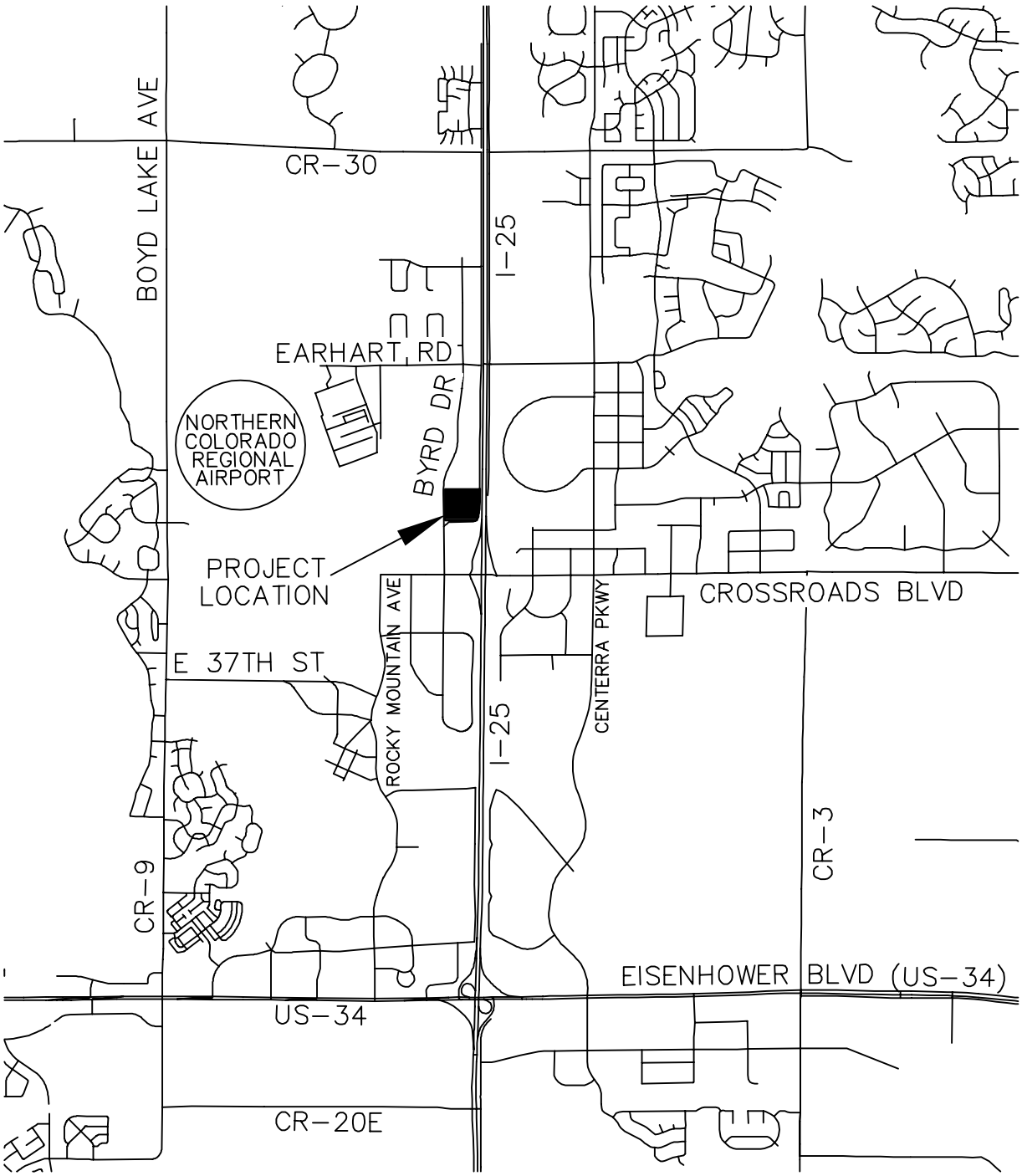
Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study of future traffic conditions associated with the proposed Byrd Drive Industrial development to be located along the north side of the previous I-25 NW Frontage Road after the curve from Byrd Drive, approximately 1,300 feet north of Crossroads Boulevard, in Loveland, Colorado. A vicinity map illustrating the project location is shown in **Figure 1**. Byrd Drive Industrial is anticipated to include two buildings totaling approximately 196,200 square feet of industrial building space. A conceptual site plan illustrating the development is shown in **Appendix H**. It is expected that the project will be completed by 2020; therefore, analysis was conducted for the 2020 short term horizon as well as the 2040 long-term horizon per City of Loveland requirements. The City of Loveland required Transportation Impact Study Base Assumptions form is included in **Appendix A**.

The purpose of this traffic study is to identify project traffic generation characteristics and potential project traffic related impacts on the local street system, as well as to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with City of Loveland and State of Colorado Department of Transportation (CDOT) standards and requirements:

- Earhart Road and Byrd Drive
- Crossroads Boulevard and Byrd Drive
- Byrd Drive Accesses

Regional access will be provided by Interstate 25 (I-25) and Eisenhower Boulevard (US-34). Primary access to the site will be provided by Crossroads Boulevard, Earhart Road, and Rocky Mountain Avenue. Direct access to the project is proposed from two accesses along the east side of Byrd Drive. The north project access is proposed to allow full turning movements. In the future, this may be a roundabout intersection with site access being the east leg. The proposed roundabout T-intersection is to be located approximately 2,000 feet north of the Byrd Drive and Crossroads Boulevard intersection (measured center to center). The south project T-intersection access is proposed as a three-quarter movement access with restricted left-out movements to be located approximately 1,300 feet north of the Byrd Drive and Crossroads Boulevard intersection (measured center to center).

Kimley»Horn
NORTH
NTS 096373015



BYRD DRIVE INDUSTRIAL
LOVELAND, CO
VICINITY MAP

FIGURE 1

Kimley»Horn

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3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The existing site is comprised of vacant land while the immediate surrounding area mainly consists of commercial uses, industrial uses, or vacant land. The Northern Colorado Regional Airport is located directly west of the project site and Interstate-25 is located directly east of the project site. Further west, the primary areas of the City of Loveland exists. The land uses and roadway network surrounding the site are shown in **Figure 2**.

3.2 Existing and Future Roadway Network

Earhart Road provides one through lane of travel both eastbound and westbound with designated bicycle lanes in both directions of travel and a shared two-way left-turn lane. Earhart Road has a posted speed limit of 35 miles per hour. Byrd Drive is a three-lane roadway with one through lane of travel in each direction, northbound and southbound, and designated bicycle lanes in both directions of travel. Byrd Drive has a posted speed limit of 45 miles per hour. Crossroads Boulevard provides two through lanes of travel both eastbound and westbound with a raised center median, designated bicycle lanes in both directions of travel, and left and right turn lanes at major intersections. Crossroads Boulevard has a posted speed limit of 35 miles per hour.

The intersection of Byrd Drive and Earhart Road is unsignalized and operates with All-Way Stop Control (AWSC). The eastbound approach provides a two-way left-turn lane and a shared through/right tun lane. The westbound and northbound approaches provide a left turn lane and a shared through/right turn lane. The southbound approach provides a single lane for shared movements.

The intersection of Byrd Drive and Crossroads Boulevard is signalized and operates with protected-permissive left turn phasing on the eastbound and westbound Crossroads Boulevard approaches and with permissive-only left turn phasing on the northbound and southbound Byrd Drive approaches. The eastbound and westbound approaches provide a left turn lane, two through lanes, and a right turn lane. The northbound and southbound approaches provide a left turn lane, one through lane, and a right turn lane. The intersection lane configuration and control for the study area key intersections are shown in **Figure 3**.

NORTH
NTS 096373015

BYRD DRIVE INDUSTRIAL
LOVELAND, CO
SURROUNDING SITE AREA

FIGURE 2

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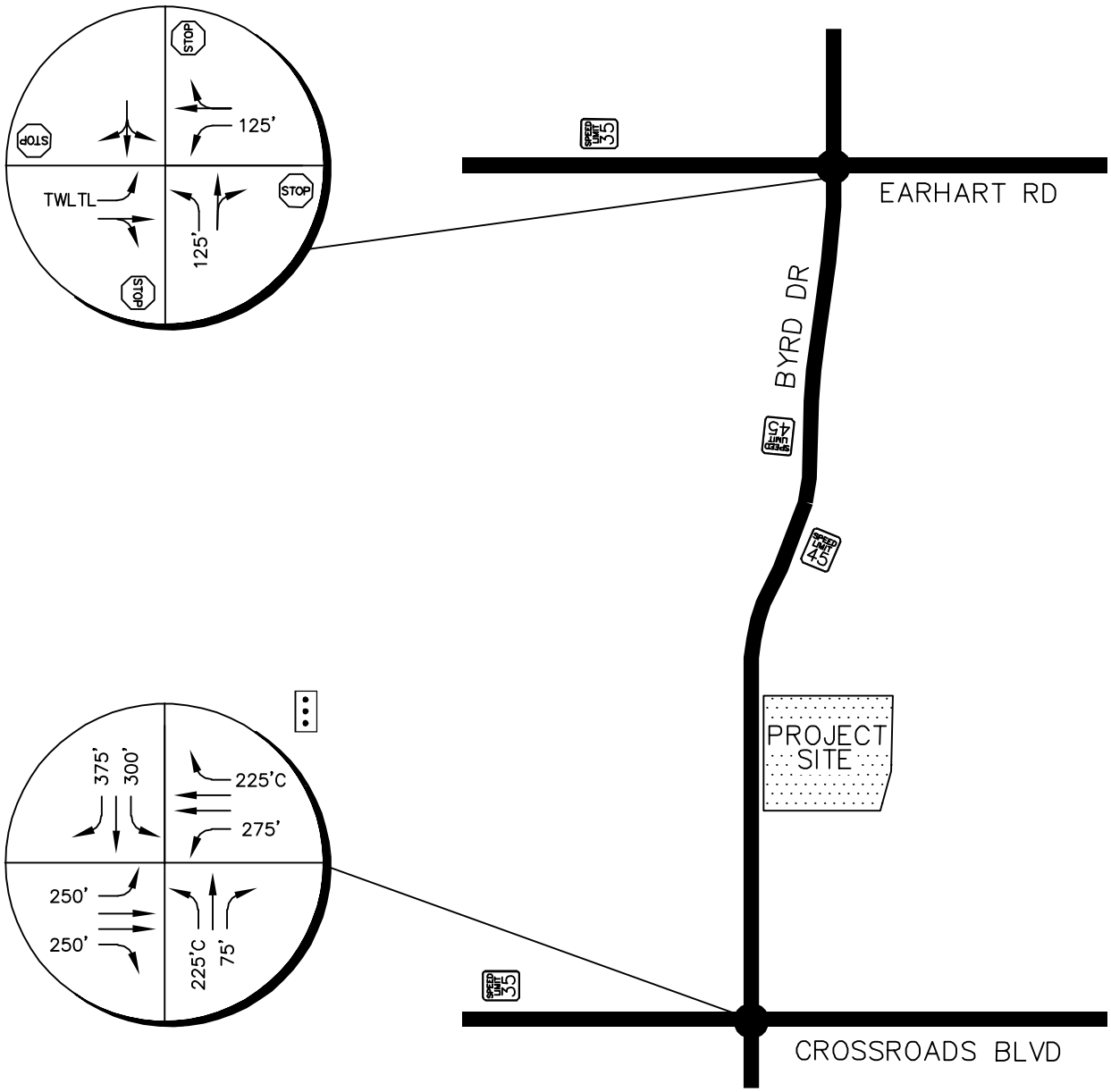

BYRD DRIVE INDUSTRIAL
LOVELAND, CO
EXISTING LANE CONFIGURATIONS

FIGURE 3

Kimley»Horn

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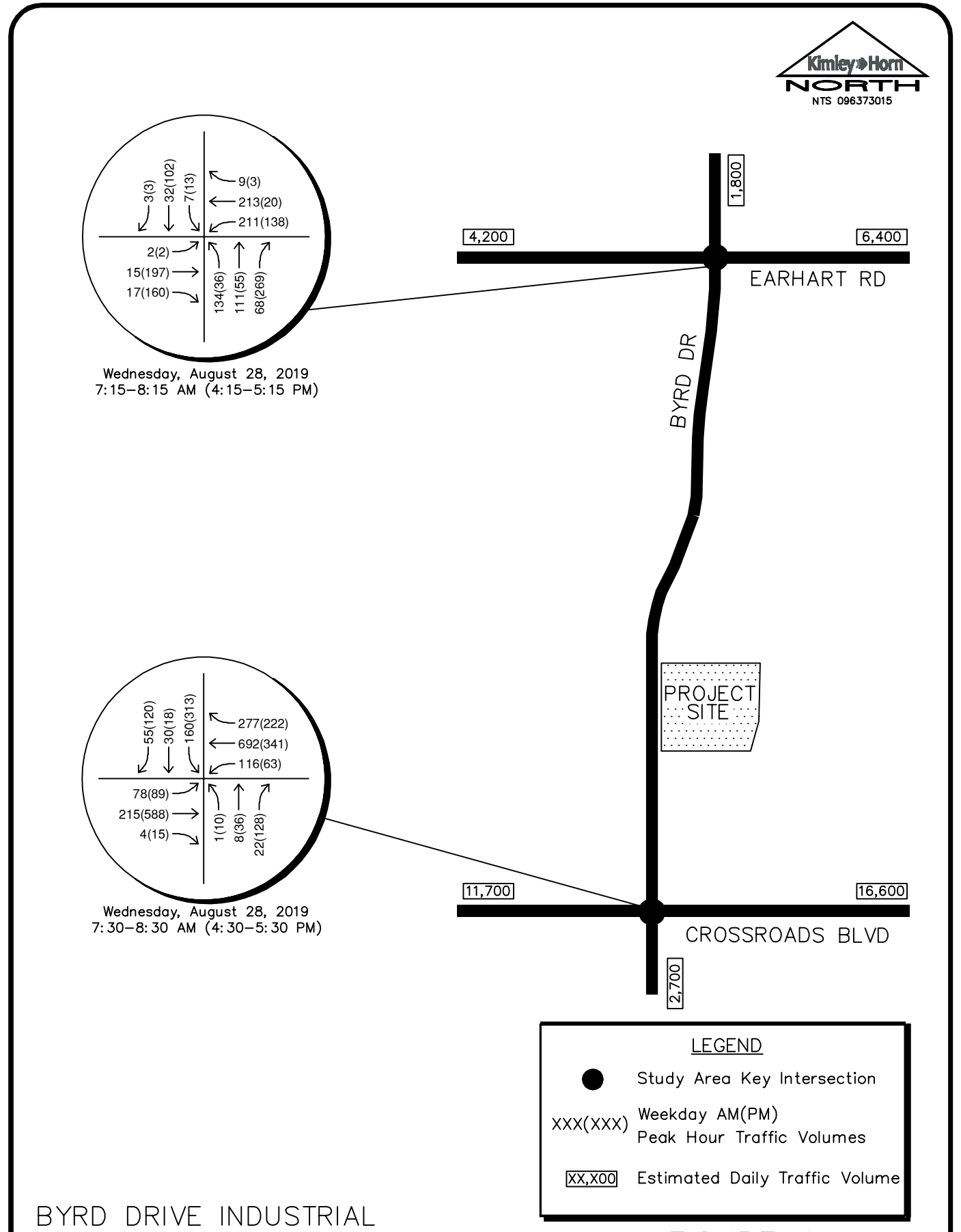
3.3 Existing Traffic Volumes

Existing peak hour turning movement counts were conducted at the key intersections on Wednesday, August 28, 2019. Counts were conducted in 15-minute intervals during the morning and afternoon peak hours of adjacent street traffic from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. Existing turning movement counts are shown in **Figure 4** with count sheets provided in **Appendix B**.

3.4 Unspecified Development Traffic Growth

Based on past study history, City of Loveland staff has recommended use of an annual traffic volume growth rate between one and two percent. To provide a conservative analysis, an annual traffic volume growth rate of two (2) percent was applied to calculate future traffic volumes. This annual growth rate was used to estimate near term 2020 and long term 2040 traffic volume projections at the key intersections without the addition of the project. Background traffic volumes for 2020 and 2040 are shown in **Figure 5** and **Figure 6**, respectively.



BYRD DRIVE INDUSTRIAL
LOVELAND, CO
EXISTING TRAFFIC VOLUMES

FIGURE 4

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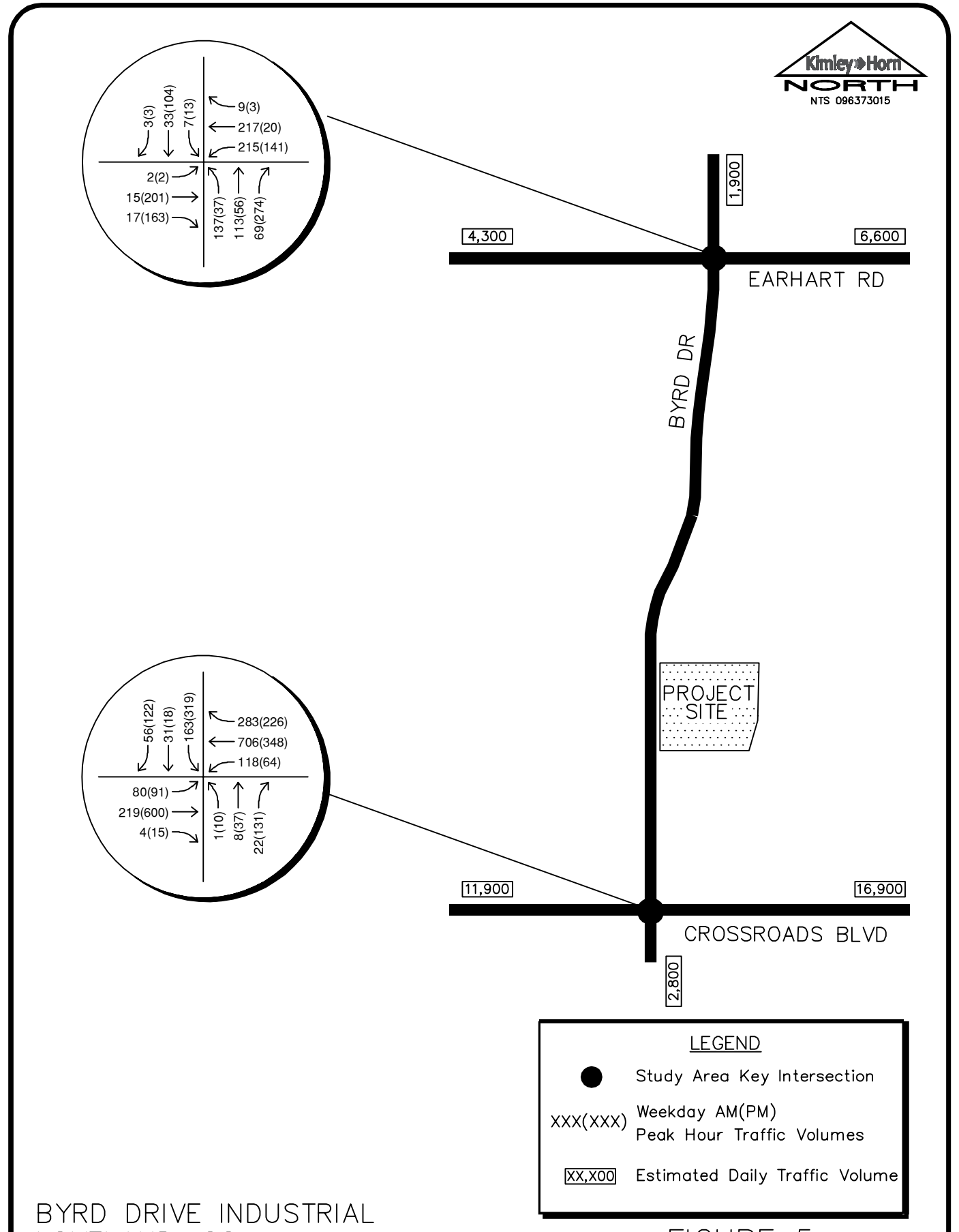

BYRD DRIVE INDUSTRIAL
LOVELAND, CO
2020 BACKGROUND TRAFFIC VOLUMES

FIGURE 5

Kimley»Horn

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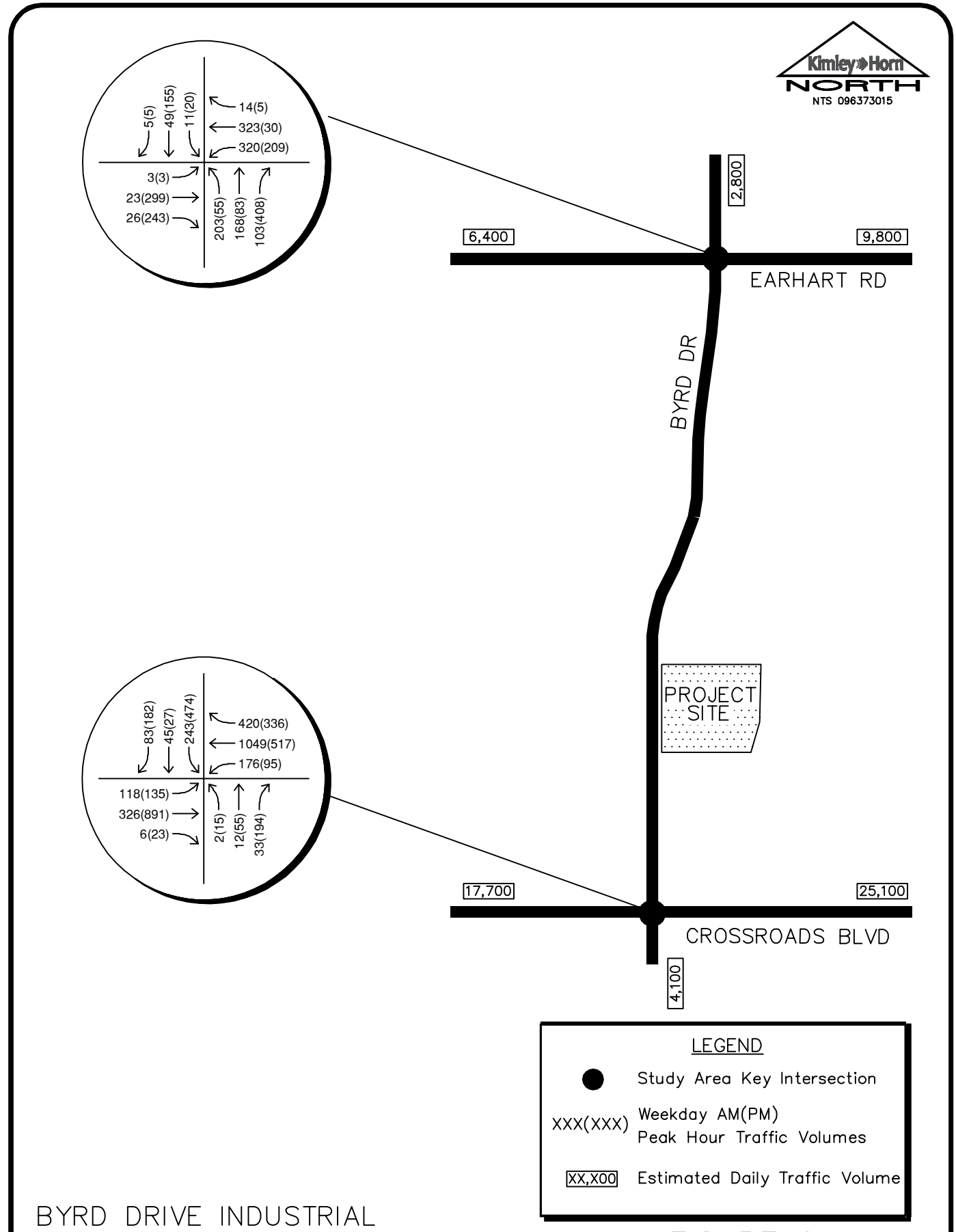

BYRD DRIVE INDUSTRIAL
LOVELAND, CO
2040 BACKGROUND TRAFFIC VOLUMES

FIGURE 6

Kimley»Horn

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4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land uses to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation fitted curve equations that apply to general light industrial land use (ITE Code 110) for traffic associated with the development.

Byrd Drive Industrial is expected to generate approximately 802 daily weekday trips with 73 of these trips expected to occur during the morning peak hour and 59 trips occurring during the afternoon peak hour. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 10th Edition – Volume 1: User's Guide and Handbook*, 2017. **Table 1** summarizes the estimated trip generation for the proposed development. The trip generation worksheet is included in **Appendix C**.

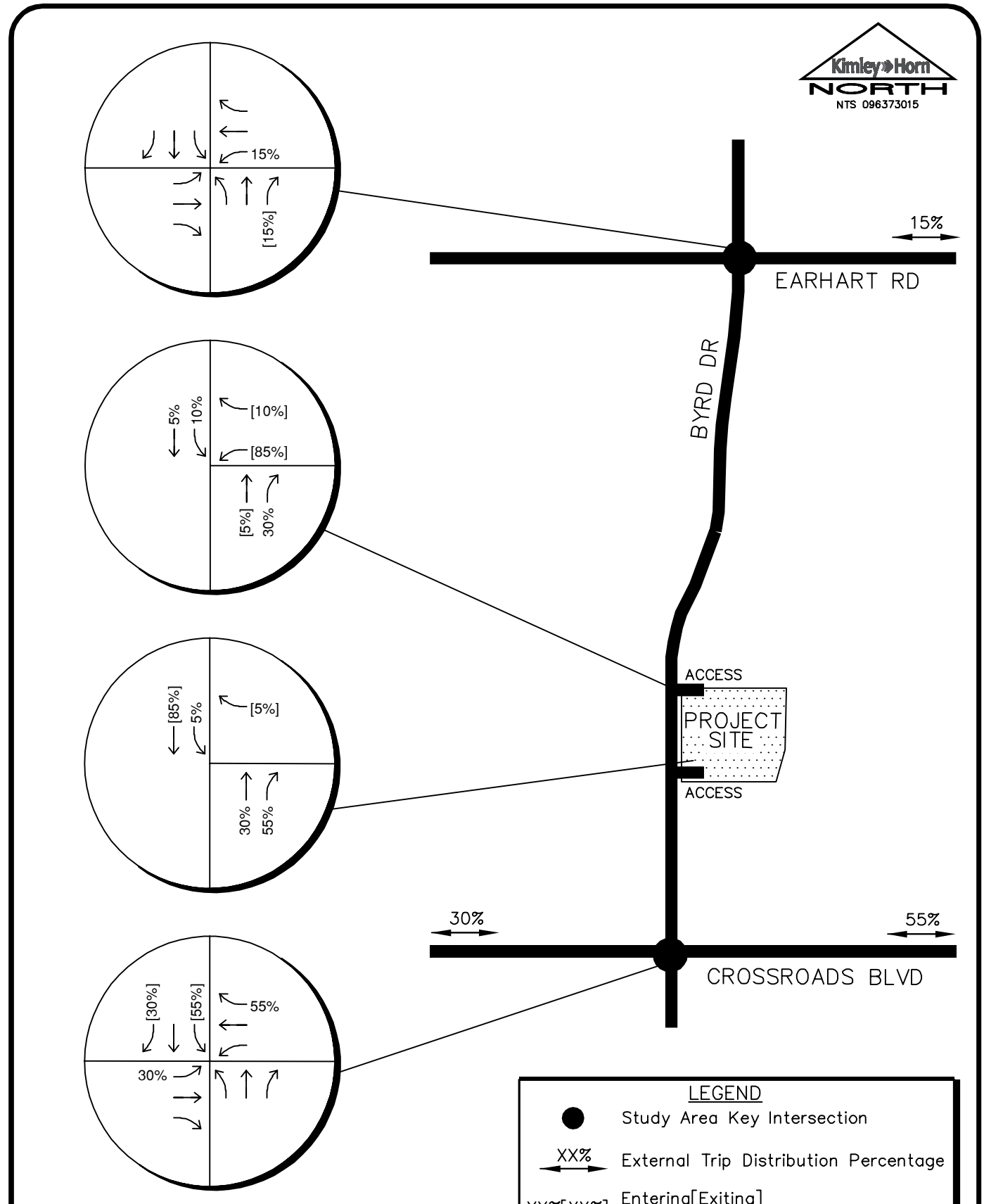
Table 1 – Byrd Drive Industrial Traffic Generation

Land Use	Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
General Light Industrial (ITE 110) – 196,200 Square Feet	802	64	9	73	8	51	59

4.2 Trip Distribution

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, expected roadway improvements, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The project trip distribution is illustrated in **Figure 7.**

[1] Institute of Transportation Engineers, *Trip Generation Manual*, Tenth Edition, Washington DC, 2017.



BYRD DRIVE INDUSTRIAL
LOVELAND, CO
PROJECT TRIP DISTRIBUTION

FIGURE 7

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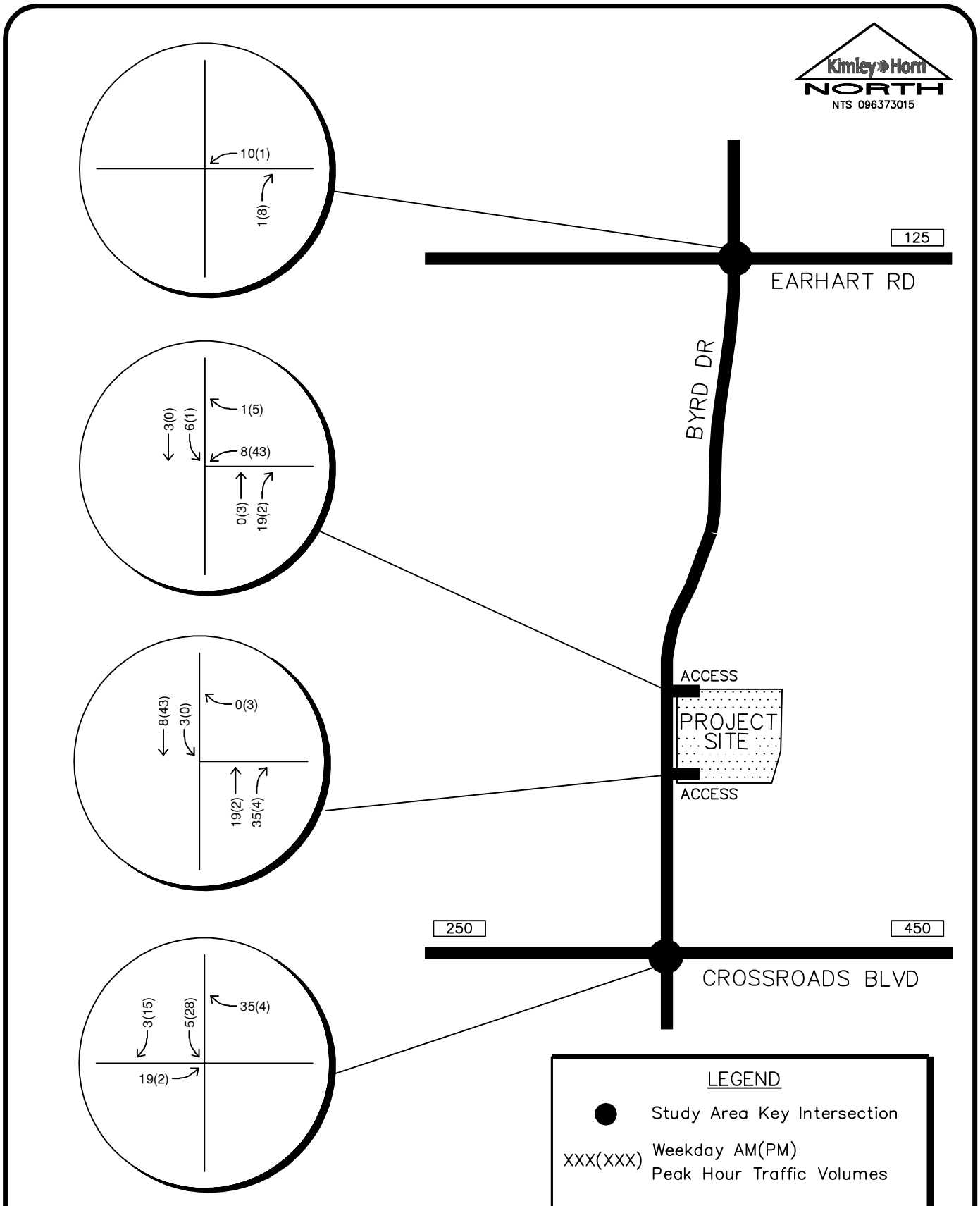
4.3 Traffic Assignment

Traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Site traffic assignment for Byrd Drive Industrial is shown in **Figure 8.**

4.4 Total (Background Plus Project) Traffic

Site generated traffic volumes were added to the background volumes to represent estimated traffic conditions for the short term 2020 horizon and long term 2040 horizon. These total traffic volumes for the site are illustrated for the 2020 and 2040 horizon years in **Figures 9** and **10**, respectively.



BYRD DRIVE INDUSTRIAL
LOVELAND, CO
PROJECT TRAFFIC ASSIGNMENT

FIGURE 8

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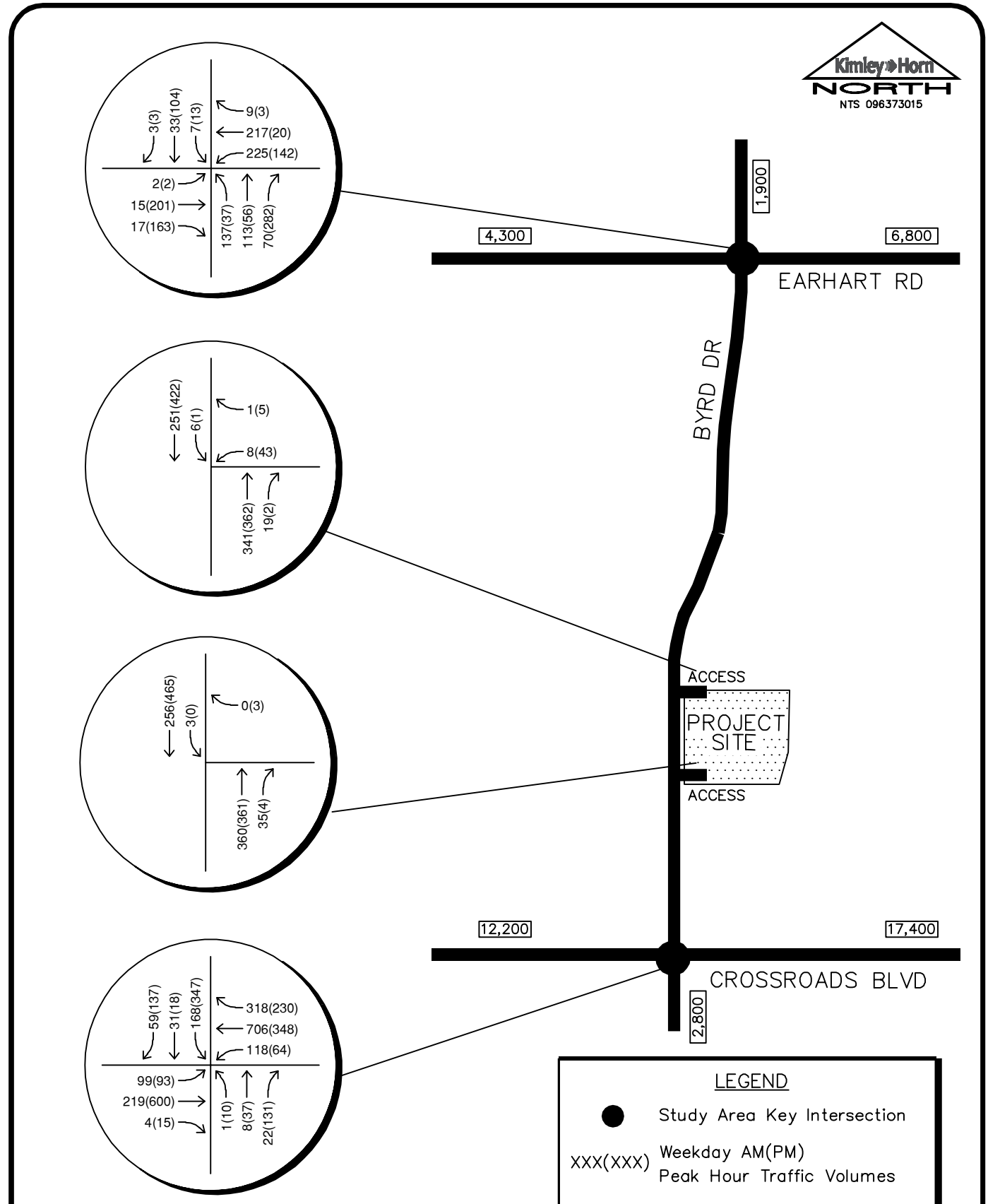

BYRD DRIVE INDUSTRIAL
LOVELAND, CO
2020 BACKGROUND PLUS
PROJECT TRAFFIC VOLUMES

FIGURE 9

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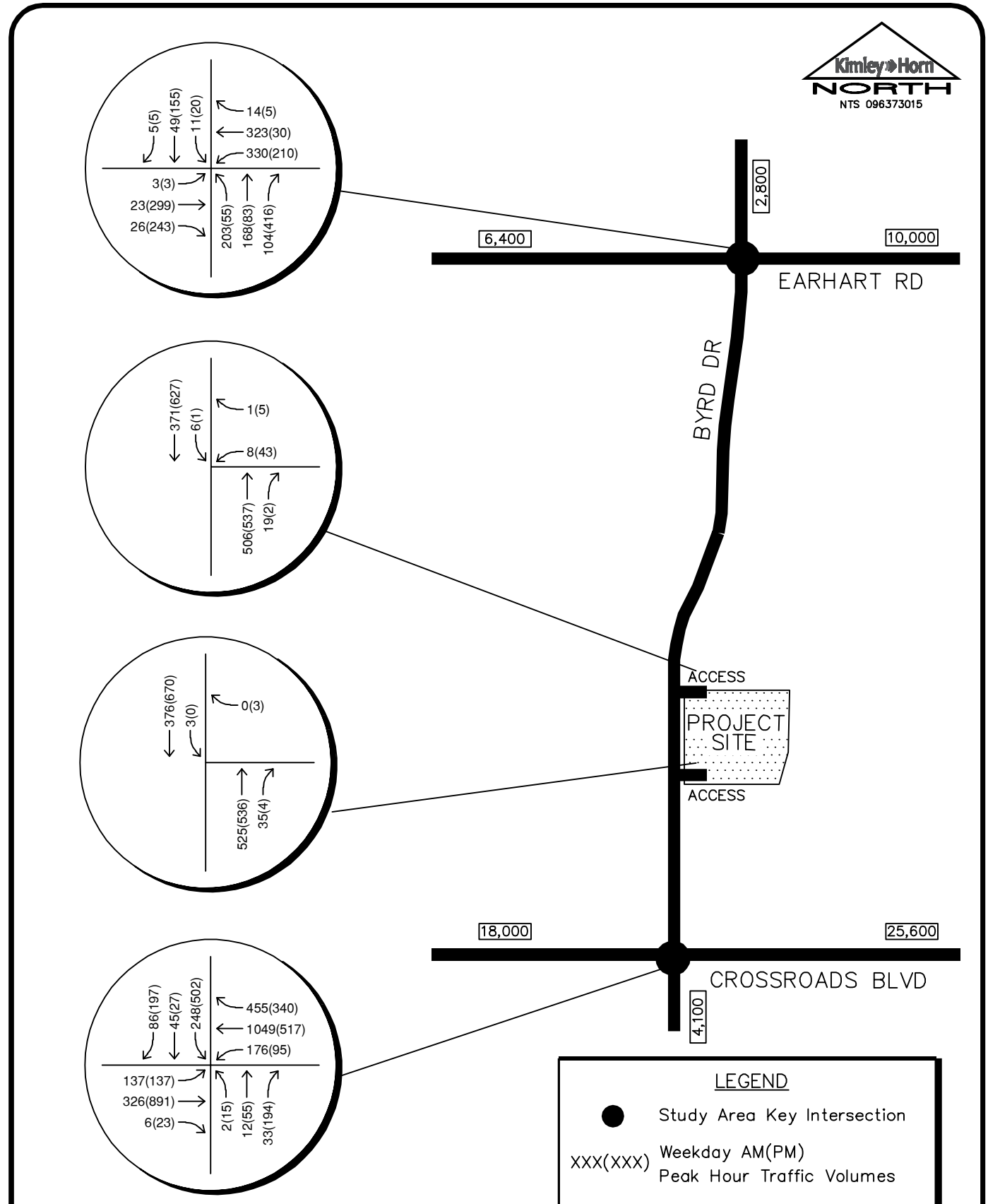

BYRD DRIVE INDUSTRIAL
LOVELAND, CO
2040 BACKGROUND PLUS
PROJECT TRAFFIC VOLUMES

FIGURE 10

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5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2020 and 2040 development horizons at the identified key intersections and access driveways. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual (HCM)*[2].

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). Typical standard traffic engineering practice recommends intersection LOS D for signalized intersections and LOS E for movements or approaches of unsignalized intersections as the minimum threshold for acceptable operations. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for a signalized and all-way stop controlled intersection is defined for each approach and for the overall intersection.

[2] Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

The City of Loveland has identified acceptable operation thresholds for level of service based on the overall intersection, approaches, and movements at signalized and unsignalized intersections as applicable. Level of service thresholds in Loveland are summarized in the following **Table 3**.

Table 3 – Loveland Motor Vehicle LOS Standards (Intersections)

Intersection Component	Major Intersection[1]	Minor Intersection[2]	Driveway
Overall (City Limits)	LOS C	LOS C	No Limit
Overall (GMA)	LOS D	LOS D	No Limit
Any Leg	LOS D	LOS E	No Limit
Any Movement	LOS E	LOS F	No Limit

[1] **Includes all signalized and unsignalized arterial/arterial and arterial/major collector intersections**
[2] **Includes all unsignalized intersection (except major intersections) and high volume driveways**
[3] **There are no LOS standards for I-25 Interchanges**

The proposed accesses along Byrd Drive are classified as Minor Intersections. The following intersections are classified as Major Intersections, which have an identified target of LOS C or better:

- Crossroads Boulevard and Byrd Drive
- Earhart Road and Byrd Drive

It is important to note that the reduced level of service category requirement of LOS C instead of using a LOS D as is standard traffic engineering practice has been shown to provide an overall degradation in the level of service for all road users. By holding the intersections and roadways to a higher LOS C standard causes the roadways and intersections to be overbuilt, which induces increase vehicle speeds and a reduction in safety for pedestrians and bicycles. The current traffic engineering practice and methodology is to allow for an increase in vehicle delay to a level of service of D or E to allow for improved safety for pedestrians and bicyclists by not overbuilding the roadways causing it to be a vehicle-centric only environment.

5.2 Key Intersection Operational Analysis

Calculations for the level of service at the key intersections and project access driveways for the study area are provided in **Appendix D**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 3**. Synchro traffic analysis software was used to analyze the study area intersections and access driveways. The Synchro Highway

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Capacity Manual (HCM) methodology reports were used to analyze intersection delay and level of service.

Byrd Drive and Earhart Road

The intersection of Byrd Drive and Earhart Road is unsignalized and operates with All-Way Stop Control (AWSC). With this control and the existing lane configuration, this intersection currently operates acceptably with LOS C or better during peak hours and is anticipated to continue operating acceptable with the addition of project traffic in 2020.

By the year 2040, if future volumes are realized, this intersection may operate unacceptably with LOS F during the afternoon peak hour. It is recommended that either a roundabout or traffic signal be constructed at this intersection by the 2040 long term horizon. If a roundabout is implemented at this intersection, single lane approaches are recommended on all four roundabout legs.

A four-hour vehicular volume signal warrant is met in the long-term horizon based on 2040 traffic projections at this intersection. The signal warrant analysis figure for this intersection is included in **Appendix E**. Therefore, a roundabout or signalization is recommended at this location in the 2040 project buildout year. Additionally, it is recommended that a southbound left turn lane be designated at this intersection if signalization is implemented. There is currently sufficient pavement width to stripe this left turn lane without widening the southbound approach to this intersection. With either of the recommended improvements in the 2040 project buildout year this intersection is anticipated to operate acceptably with LOS C or better during peak hours. **Table 4** provides the results of the level of service at this intersection.

Table 4 – Byrd Drive and Earhart Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2019 Existing	12.7	B	19.6	C
2020 Background	12.9	B	20.6	C
2020 Background Plus Project	13.1	B	21.2	C
2040 Background	24.1	C	120.8	F
2040 Background Plus Project (AWSC)	25.0	C	124.2	F
2040 Background Plus Project #	15.6	B	11.9	B
2040 Background Plus Project ##	19.1	B	33.6	C

= Roundabout; ## = Signalization and SBL Turn Lane

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Byrd Drive and Crossroads Boulevard

The intersection of Byrd Drive and Crossroads Boulevard is signalized and operates with protected-permissive left turn phasing on the eastbound and westbound Crossroads Boulevard approaches and with permissive-only left turn phasing on the northbound and southbound Byrd Drive approaches. With this control and the existing lane configurations, all movements at this intersection currently operate acceptably with LOS C or better during the morning and afternoon peak hours. With or without the addition of project traffic in 2020 and 2040, all movements at this intersection are anticipated to continue to operate acceptably with LOS D or better during the peak hours. To improve overall operations, it is recommended that the southbound left turn movement operate with protected-permissive phasing in the year 2040. **Table 5** provides the results of the level of service analysis for this intersection.

Table 5 – Byrd Drive and Crossroads Boulevard LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2019 Existing	18.7	B	21.8	C
2020 Background	18.8	B	22.2	C
2020 Background Plus Project	19.0	B	24.3	C
2040 Background #	21.7	C	36.4	D
2040 Background Plus Project #	22.0	C	37.7	D

SB Protected-Permissive Left Turn Phasing

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5.3 Project Access Operational Analysis

With completion of the Byrd Drive Industrial development, the site proposes two new access locations along the east side of Byrd Drive. The north access will allow full turning movements. A south access is proposed from a three-quarter access intersection with restricted left turn exiting movements.

The Byrd Drive north access will be located approximately 2,000 feet north of the Byrd Drive and Crossroads Boulevard intersection (measured center to center). The Byrd Drive south access is located approximately 1,300 feet north of the Byrd Drive and Crossroads Boulevard intersection (measured center to center). Both accesses are recommended to have a R1-1 "STOP" signs installed for the westbound exiting approaches. The westbound exiting approach at the south access will restrict westbound to southbound left turning movements onto Byrd Drive. To provide signage for the proposed three-quarter restricted accesses, it is recommended that R3-2 No Left Turn sign be placed underneath the STOP sign. A southbound left turn lane should be striped within the existing pavement width at both accesses with lengths of 235 feet plus 200-foot tapers. One exiting lane should be sufficient at both access locations. By 2040, it is understood that the north access location may be a roundabout intersection.

With the recommended lane configurations and control, all movements at all project accesses are expected to operate acceptably during the peak hours during the 2020 project buildout year as well as throughout the 2040 long term horizon. The operational analysis at the proposed project driveways is summarized in **Table 6**. Detailed results of the operational analysis are also provided in **Appendix D**.

Table 6 – Project Access LOS Results

Access and Movement	2020 Total Traffic				2040 Total Traffic			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS
Byrd Drive North Access (TWSC)								
Westbound Approach	14.0	B	18.3	C				
Southbound Left	8.2	A	8.2	A	-	-	-	-
Byrd Drive North Access (Roundabout)	-	-	-	-	6.6	A	8.2	A
Byrd Drive South Access (3/4 Access)								
Westbound Approach	0.0	A	10.7	A	0.0	A	12.4	A
Southbound Left	8.3	A	0.0	A	9.0	A	0.0	A

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5.4 Peak Hour Traffic Volume Analysis for Arterial Links

The City of Loveland requires that roadway segments adjacent to the project be evaluated to determine if they are projected to exceed ACF capacity with development of the project. ACF capacities for the surrounding street network were calculated based upon the City of Loveland procedure as provided in **Appendix F**. Byrd Drive is classified as a minor arterial roadway within the City of Loveland 2030 Transportation Plan. All roadway segment links studied within this report are expected be within ACF compliance for both peak hours studied in 2020 and 2040 with the addition of project traffic. Projected link volumes along with estimated link capacities for the Byrd Drive roadway segments are shown in **Table 7**.

Table 7 – ACF Traffic Compliance

Location	Direction	2020 Total Traffic		2040 Total Traffic		ACF Traffic Threshold	ACF Compliance	
		AM Peak	PM Peak	AM Peak	PM Peak		AM Peak	PM Peak
Byrd Drive, S/O Earhart Road	NB	320	375	475	554	860	Y	Y
	SB	275	409	405	608	860	Y	Y
Byrd Drive, N/O of Crossroads Blvd	NB	425	360	604	532	900	Y	Y
	SB	258	502	379	726	900	Y	Y

5.5 Turn Bay Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for turn lanes at the study area intersections. The queuing analysis was performed using the Synchro analysis software presenting the results of the 95th percentile queue length. Queue analysis worksheets at the signalized intersections are provided in **Appendix G**. Queue length calculations for unsignalized intersections are provided within the level of service operational sheets provided in **Appendix D**. Results of the vehicle queuing analysis are shown in the following **Table 8**.

Table 8 – Turn Lane Length Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2020 Total Queue Length (feet)	2020 Recommended Turn Lane Length (feet)	2040 Total Queue Length (feet)	2040 Recommended Turn Lane Length (feet)
Byrd Dr & Earhart Rd (AWSC)					
Eastbound Left	TWLTL	25’	TWLTL	25’	TWLTL
Westbound Left	125’	70’	125’	185’	**200’**
Northbound Left	125’	30’	125’	65’	125’
Byrd Dr & Earhart Rd (Roundabout)					
Eastbound Approach	DNE	N/A	N/A	25’	C
Westbound Approach	DNE	N/A	N/A	225’	C
Northbound Approach	DNE	N/A	N/A	50’	C
Southbound Approach	DNE	N/A	N/A	25’	C
Byrd Dr & Earhart Rd (Signal)					
Eastbound Left	TWLTL	N/A	N/A	25’	TWLTL
Westbound Left	125’	N/A	N/A	263’	**275’**
Northbound Left	125’	N/A	N/A	173’	**175’**
Southbound Left	DNE	N/A	N/A	25’	**150’**
Byrd Dr & Crossroads Blvd					
Eastbound Left	250’	54’	250’	107’	250’
Eastbound Right	250’	25’	250’	25’	250’
Westbound Left	275’	60’	275’	111’	275’
Westbound Right	225’ C	45’	225’ C	68’	225’ C
Northbound Left	225’ C	25’	225’ C	30’	225’ C
Northbound Right	75’	25’	75’	115’	**125’**
Southbound Left	300’	286’	300’	464’	**300’**
Southbound Right	375’	34’	375’	43’	375’
Byrd Drive North Access					
Westbound Approach	DNE	25’	**25’**	RAB	RAB
Southbound Left	DNE	25’	**235’**	RAB	RAB
Byrd Drive South Access					
Westbound Right	DNE	25’	**25’**	25’	25’
Southbound Left	DNE	25’	**235’**	25’	235’

TWLTL = Two-Way Left-Turn Lane; DNE = Does Not Exist; N/A = Not Applicable; C = Continuous Lane; RAB = Roundabout

As shown in the table representing the queuing results, all anticipated vehicle queues are accommodated or managed within existing or proposed turn lanes at the study area intersections in the 2020 project buildout year. All new auxiliary turn lanes should be constructed with the lengths reported in **Table 8**.

Vehicle queues may extend beyond existing turn lanes at several locations during the peak hours in 2040. By the 2040 long term horizon, southbound left turn queues may exceed the existing 300-foot storage length at the intersection of Crossroads Boulevard and Byrd Drive. However, this storage length cannot be further extended due to the existing back-to-back left

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turn lane that exists for the US Energy Department driveway located along the west side of Byrd Drive. Southbound dual left turn lanes may need to be provided at the Crossroads Boulevard and Byrd Drive intersection in the long-term future to prevent long vehicle queues. It is recommended that vehicle queues are studied further by the long-term horizon to determine if existing turn lanes lengths are sufficient for future traffic volumes.

According to Larimer County Urban Area Street Standards Figure 8-4, right turn lanes are required along 2-lane arterials with a speed limit of 45 miles per hour when the volume of right-turns during the peak hour exceeds 40 vehicles per hour if the adjacent through volume is greater 500 vehicles per hour. Based on this, neither access warrants a separate right turn lane for the 2020 and 2040 horizons.

Based upon Figure 8-2 within Larimer County Urban Area Street Standards, the new southbound left turn lane at both Byrd Drive accesses should be designated with 235 feet of length plus a 200-foot taper.

5.6 Bicycle and Pedestrian Access

A bicycle and pedestrian access evaluation was conducted for the proposed Byrd Drive Industrial development. Designated bicycle lanes are provided on both the north and south sides of Earhart Road and of Crossroads Boulevard. Designated bicycle lanes are also provided on both the east and west sides of Byrd Drive within the project vicinity and study area.

A sidewalk is located on the south side of Crossroads Boulevard from the I-25 Frontage Road to Precision Drive. Additionally, a sidewalk exists on the east side of Byrd Drive from Crossroads Boulevard to the commercial driveway intersection located approximately 675-foot to the north. Designated and timed pedestrian crossings are located along all four approaches at the intersections of Crossroads Boulevard and Byrd Drive. With the area surrounding Byrd Drive being mainly undeveloped, there are no observed sidewalks or designated street crossings along Byrd Drive located to the north of the project site or along Earhart Road. With development of this project, it is anticipated that new sidewalk be constructed along the east side of Byrd Drive adjacent to project frontage. This sidewalk should provide a connection to the existing sidewalk along Byrd Drive at the Crossroads Boulevard signalized intersection.

Based on the results of the intersection operational and turn lane analysis, the recommended lane configurations and control of the study key intersections are shown for the 2020 project buildout year in **Figure 11** and for the 2040 long term horizon in **Figure 12**.

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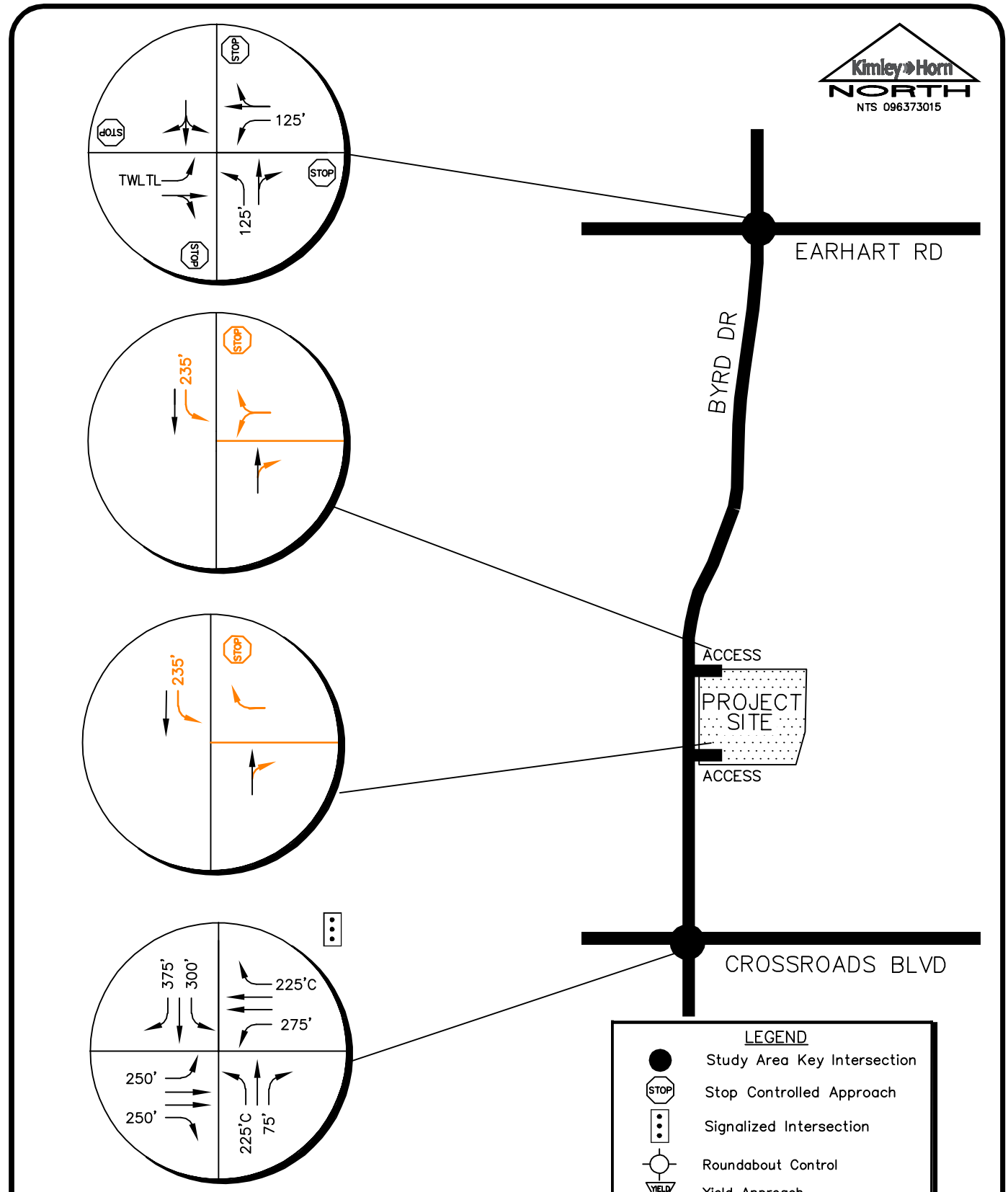

BYRD DRIVE INDUSTRIAL
LOVELAND, CO
2020 RECOMMENDED
LANE CONFIGURATIONS AND CONTROL

FIGURE 11

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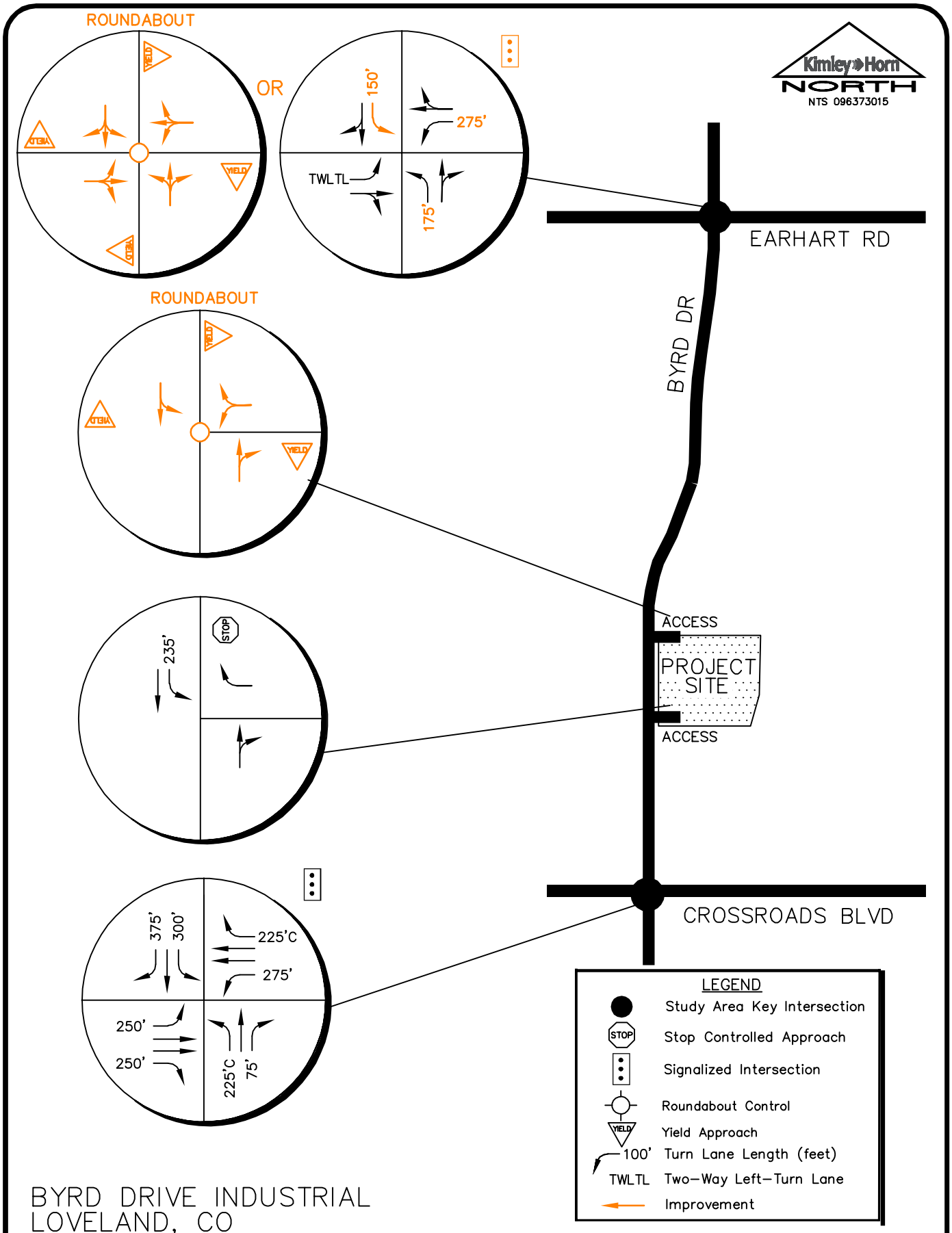

BYRD DRIVE INDUSTRIAL
LOVELAND, CO
2040 RECOMMENDED
LANE CONFIGURATIONS AND CONTROL

FIGURE 12

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6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the proposed Byrd Drive Industrial development will be successfully incorporated into the existing and future roadway network. The proposed project development and expected traffic volumes resulted in the following recommendations and conclusions:

- With completion of the Byrd Drive Industrial development, the site proposes two new access locations along the east side of Byrd Drive. The north access is proposed to allow full turning movements and be located approximately 2,200 feet north of Crossroads Boulevard (measured center to center) while the south access is proposed from a new three-quarter access T-intersection with restricted left turn exiting movements to be located approximately 1,300 feet north of the Byrd Drive and Crossroads Boulevard intersection (also measured center to center). Both accesses are recommended to have R1-1 “STOP” signs installed for the westbound exiting approaches. The westbound exiting approach at the south access will restrict westbound to southbound left turning movements onto Byrd Drive. To provide signage for the proposed three-quarter restricted accesses, it is recommended that R3-2 No Left Turn sign be placed underneath the STOP sign. One exiting lane should be sufficient at both access locations along Byrd Drive.

- According to Larimer County Urban Area Street Standards Figure 8-4, right turn lanes are required along 2-lane arterials with a speed limit of 45 miles per hour when the volume of right-turns during the peak hour exceeds 40 vehicles per hour if the adjacent through volume is greater 500 vehicles per hour. Based on this, neither access warrants a separate right turn lane for either the 2020 and 2040 horizons. However important to note, the eastbound and northbound approaches to the Earhart Road and Byrd Drive intersection currently warrant right turn lanes based on existing traffic volumes. Based upon Figure 8-2 within Larimer County Urban Area Street Standards, new southbound left turn lanes will be needed at both accesses along Byrd Drive and should be constructed with lengths of 235 feet plus 200-foot tapers.

- With development of this project, it is anticipated that new sidewalk will be constructed along the east side of Byrd Drive adjacent to project frontage. This sidewalk should provide a

connection to the existing sidewalk along Byrd Drive to provide a connection to the Crossroads Boulevard signalized intersection.

- Byrd Drive is classified as a minor arterial roadway within the City of Loveland 2030 Transportation Plan. All roadway segment links studied within this report are expected to be within ACF compliance for both peak hours studied in 2020 and 2040 with the addition of project traffic.

- By the year 2040, if future volumes are realized, the intersection of Byrd Drive and Earhart Road may operate unacceptably during peak hours. It is recommended that either a roundabout or traffic signal be constructed at this intersection in the long-term horizon. If a roundabout is implemented, single lane approaches are recommended on all four roundabout legs. If signalization is implemented at this intersection, it is recommended that a southbound left turn lane be designated. There is currently sufficient pavement width to stripe this left turn lane without widening the southbound approach to this intersection.

- Vehicle queues may extend beyond existing turn lanes at several locations during the peak hours in 2040. By the 2040 long term horizon, southbound left turn queues may exceed the existing 300-foot storage length at the intersection of Crossroads Boulevard and Byrd Drive. However, this storage length cannot be further extended due to the existing back-to-back left turn lane that exists for the US Energy Department driveway located along the west side of Byrd Drive. Southbound dual left turn lanes may need to be provided at the Crossroads Boulevard and Byrd Drive intersection in the long-term future to prevent long vehicle queues if the need arises. It is recommended that vehicle queues be further studied by the long-term horizon to determine if existing turn lanes lengths are sufficient for future traffic volumes.
- To improve overall operations at the intersection of Byrd Drive and Crossroads Boulevard, it is recommended that the southbound left turn movement operate with protected-permissive phasing in the year 2040.

- By 2040, it is anticipated that the northern full movement access will be a roundabout based on discussions with City Staff. The east leg will be incorporated as the site access. The proposed roundabout T-intersection is recommended to provide a single lane on all approaches.

- Any on-site and off-site signing and striping improvements should be incorporated into the Civil Drawings and conform to City of Loveland and CDOT Standards as well as the Manual on Uniform Traffic Control Devices – 2009 Edition (MUTCD).

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 6 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO.

architecture
planning
interiors
graphics
site development

1600 champa street
suite 350
denver, colorado 80202
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FIRST SDP SUBMITTAL 09/06/2019
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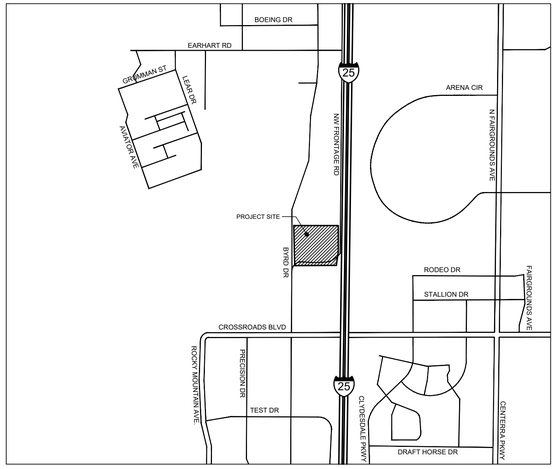

VICINITY MAP

STATISTICAL INFORMATION

Zone District: I - Developing Industrial		
General Zone Lot Information	Square Feet	Acres
Lot 2 (Building 1)		
Zone Lot Size (Gross Project Area)	330,602 SF	7.59 Acres
Hardscape - Includes: Parking & Drive Aisles	136,498 SF (41.3%)	
Building #1	100,722 SF (30.5%)	
Landscape Area	93,382 SF (28.2%)	
TOTAL	330,602 SF (100%)	
Lot 1 (Building 2)		
Zone Lot Size (Gross Project Area)	294,801 SF	6.77 Acres
Hardscape - Includes: Parking & Drive Aisles	136,431 SF (46.3%)	
Building #2	95,256 SF (32.3%)	
Landscape Area	63,114 SF (21.4%)	
TOTAL	294,801 SF (100%)	
Primary Street Designation	Byrd Drive	
Proposed Uses	Warehouse, Light Industrial, Office	
Occupancy Classification	S-1 / F-1 / B	
Construction Type	IIB - Fully Sprinklered	
Design Elements	Max (i)	Provided
Building #1 Height, Feet	50'-0"	38'-0"
Building #2 Height, Feet	50'-0"	38'-0"
Parking	Required	Provided
Building #1 (Lot 2) (70% Warehouse / 30% Office)		
Standard Spaces - Warehouse (1/1000 sf)	70,505 sf/1000 = 71 spaces	
Standard Spaces - Office (1/333 sf)	30,217 sf/333 = 91 spaces	
Total Spaces	162	175
Accessible	6	6
Potential Future Truck Court Parking		84
Parking abutting I-25/Byrd Drive	77 space / 260 spaces =29.6%	
Building #2 (Lot 1) (70% Warehouse / 30% Office)		
Standard Spaces - Warehouse (1/1000 sf)	66,679 sf/1000 = 67 spaces	
Standard Spaces - Office (1/333 sf)	28,577 sf/333 = 86 spaces	
Total Spaces	153	184
Accessible	6	6
Potential Future Truck Court Parking		86
Parking abutting I-25/Byrd Drive	77 spaces / 270 spaces =28.5%	

Water Provider	Fort Collins - Loveland Water District
Wastewater Provider	South Fort Collins Sanitation District
Power Provider	Loveland
Overlay Zone	Airport

LEGAL DESCRIPTION

A tract of land located in the Southwest quarter of Section 34, Township 6 North, Range 68 West of the 6th Principal Meridian in the City of Loveland, County of Larimer, State of Colorado, and being more particularly described as follows:

Considering the North line of said Southwest quarter as bearing North 89°45'20" East and with all bearings contained herein relative thereto:

Commencing at the West quarter corner of said Section 34; thence along said North line, North 89°45'20" East 2,423.02 feet to the Westerly right-of-way line of Interstate Highway 25; thence along said Westerly right-of-way line, South 00°36'41" West 598.90 feet to the Point of Beginning; thence continuing along said line, South 00°36'41" West 557.82 feet; thence continuing South 06°53'11" West 455.54 feet to the North line of that parcel described as Reception No. 91018318; thence along said North line, South 89°22'13" West 767.49 feet to the Northwest corner of said parcel; thence along the prolongation of the West line thereof, North 00°37'47" West 78.95 feet to the Northeast corner of a Western Area Power Administration parcel; thence along the North line of said W.A.P.A. parcel, North 89°55'19" West 50.00 feet; thence along a line parallel with said prolongation of said West line of said parcel described as Reception No. 91018318, North 00°37'47" West 929.75 feet; thence North 89°22'13" East 889.16 feet to the Point of Beginning, County of Larimer, State of Colorado.

EXCEPTING therefrom that portion conveyed in Deed of Dedication for Right-of-Way recorded August 1, 2003 at Reception No. 20030098329 and Correction Deed of Dedication for Right-of-Way recorded August 23, 2005 at Reception No. 20050071127.

EXCEPTING therefrom that portion conveyed in Warranty Deed recorded August 29, 2005 at Reception No. 20050072427 and Correction Warranty Deed recorded May 11, 2007 at Reception No. 20070035691.

CONDITIONS

All public improvements shall comply with the Larimer County Urban Area Street Standards (LCUASS).

The developer agrees to acquire and dedicate, at no cost to the City, any rights-of-way necessary for the required street improvements associated with this development.

Prior to the issuance of any building permits on Lots 1 & 2, Byrd Drive -- Loveland Industrial Subdivision, pursuant to the Unified Development Code of the City Municipal Code, the Developer shall design and construct the following public improvements unless already designed and constructed by others:
a) All public improvements on Byrd Drive including accesses, turn lanes and sidewalk as shown on the City approved Public Improvement Construction Plans.

City signed Site Development Plans (including any associated Public Improvement Construction Plans), or the issuance of building permits, does not allow any construction within public street or alley rights-of-way or pedestrian easements. A separate City Development Construction Permit and Street right-of-way (ROW) Work Permit must be obtained by the Developer and/or his Contractor at the City Project Engineering office (and approved by Project Engineering) prior to any repair or construction of sidewalk, curb and gutter, driveway accesses, or any other construction in City street or alley rights-of-way or pedestrian easements, (this includes all items proposed in rights-of-way such as utility street cuts, sidewalk ramps, construction staging proposed in street, landscaping, traffic control, etc.). (Call 970-962-2771 to discuss details to obtain a ROW Work Permit).

Prior to the commencement of any construction activity that will involve any existing or proposed street signs or traffic control devices for or within public street rights-of-way (ROW), the Developer and/or his Contractor shall contact the City Traffic Division at (970) 962-2535 to coordinate the removal, relocation, installation, and/or proper storing of the sign(s) or traffic control device(s) and obtain a ROW work permit from the City Public Works Engineering Division to do such work. However, if the Developer and/or his Contractor removes or relocates any existing street sign(s) or traffic control device(s) for or within the public ROW without first obtaining a ROW work permit from the City Public Works Division, then the contractor will be charged for the labor, materials, and equipment to reinstall the sign(s) or traffic control device(s) as deemed necessary by the City. The Developer and/or his Contractor will also be charged to replace any existing street signs or traffic control devices that were damaged or blemished during any construction activity as deemed necessary by the City. The Developer and/or his Contractor may also be subject to additional fines as per the Loveland Municipal Code.

The Developer and/or his Contractor shall contact the Public Works Street Inspector to discuss the proposed work and schedule necessary inspections prior to any construction activity within a street or alley right-of-way or pedestrian easement.

All trees, shrubs, and other plant materials located within clear sight triangles shall be trimmed in accordance with the requirements of Section 7 of the Larimer County Urban Area Street Standards (LCUASS). Under current LCUASS requirements, trees shall be limbed to a height of not less than eight (8) feet and shrubs and other plant materials shall be maintained at a height of not more than thirty (30) inches, and said maintenance shall be conducted in perpetuity. Trees are also required to be kept limbed up a minimum of 8' above all street sidewalks.

OWNER	DEVELOPER
ETKIN JOHNSON DAVID KLEBBA 1512 LARIMER STREET, SUITE 100 (BRIDGE LEVEL) DENVER, COLORADO 80202 PH: (303) 629-5212	ETKIN JOHNSON DAVID KLEBBA 1512 LARIMER STREET, SUITE 100 (BRIDGE LEVEL) DENVER, COLORADO 80202 PH: (303) 629-5212
ARCHITECT	**CIVIL ENGINEER**
WARE MALCOMB ERIK RANDA 1600 CHAMPA STREET SUITE 350 DENVER, COLORADO 80202 PH: (303) 689-1534	WARE MALCOMB TED SWAN 990 S. BROADWAY SUITE 230 DENVER, COLORADO 80209 PH: (303) 689-1516
ELECTRICAL ENGINEER	**LANDSCAPE ARCHITECT**
AE ENGINEER. DESIGN GROUP ERIC REITAN 1900 WAZEE STREET SUITE 205 DENVER, COLORADO 80202 PH: (303) 296-3034	PLAN WEST MICK KITTLE 767 SANTA FE DRIVE DENVER, COLORADO 80204 (303) 741-1411

PROPERTY OWNER

The undersigned agree that the real property described in the application and shown on the Site Development Plan filed herewith, shall be subject to the requirements of Chapter 18 of the Municipal Code of the City of Loveland, Colorado, and any other ordinances of the City of Loveland. The undersigned accepts the conditions and restrictions set forth on said Plan and in the conditions of approval by the City of Loveland. The undersigned also understands that if the next required approval or permit has not been applied for to establish the use or commence the construction that is authorized by the approval of the Site Development Plan or if the use does not require a building permit and is not established, ongoing, and in operation within three years of the date of approval, or other completions date or dates established in a development agreement approved by the City, the Site Development Plan shall expire and shall be deemed null and void.

_____
(Owner's Signature)

_____
(Title)

STATE OF COLORADO)
) ss.
COUNTY OF LARIMER)

The foregoing agreement was acknowledged before me this _____ day of, _____, 2_____, by _____.
Witness my hand and official seal.

My commission expires:_____

_____.
Notary Public

CITY APPROVAL

Approved this _____ day of _____, 2_____, by the Current Planning Manager of the City of Loveland, Colorado.

_____
Current Planning Manager

PLANNING COMMISSION APPROVAL

Approved this _____ day of _____, 2_____, by the Planning Commission of the City of Loveland, Colorado.

_____
Planning Commission Chair

SHEET INDEX

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 6 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO.

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interiors
graphics
site development

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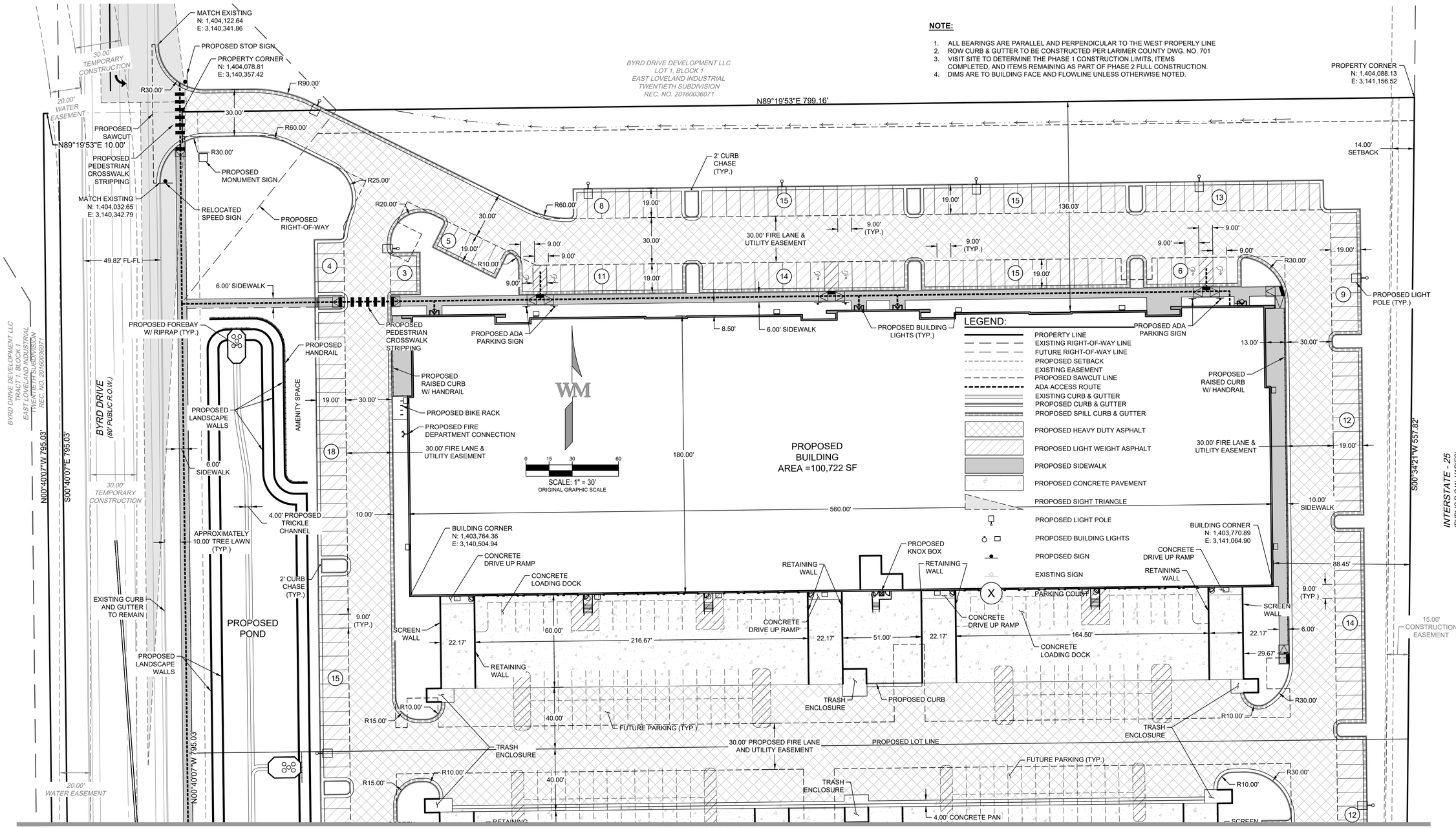
suite 350
denver, colorado 80202
p 720.488.2626

WARE MALCOMB
Leading Design for Commercial Real Estate

FIRST SDP SUBMITTAL 09/06/2019
SECOND SDP SUBMITTAL 10/28/2019



MATCHLINE - SEE SHEET 2

SITE PLAN
SHEET 2 OF 22

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

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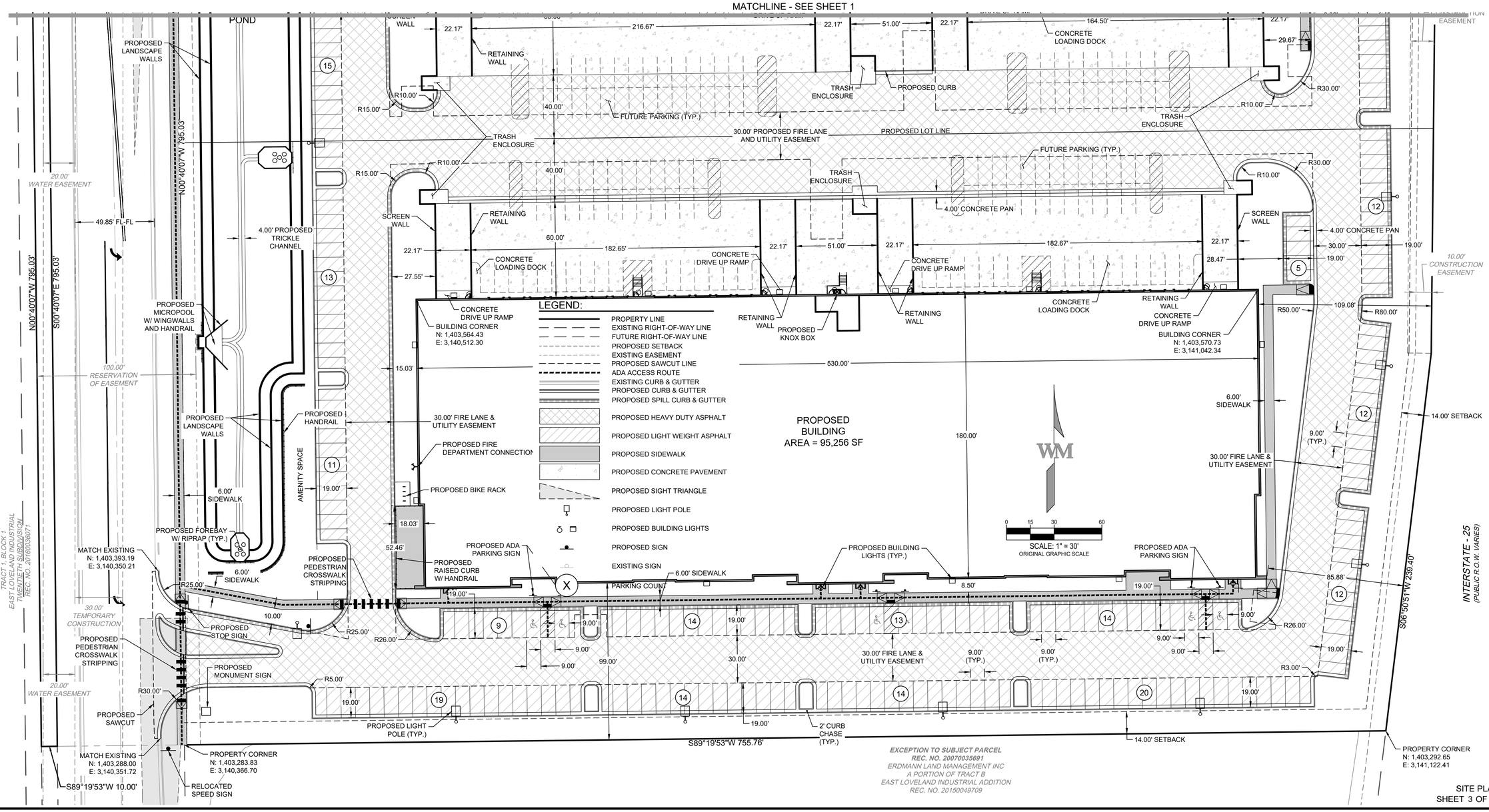
NOTE:

1. ALL BEARINGS ARE PARALLEL AND PERPENDICULAR TO THE WEST PROPERLY LINE
2. ROW CURB & GUTTER TO BE CONSTRUCTED PER LARIMER COUNTY DWG. NO. 701
3. VISIT SITE TO DETERMINE THE PHASE 1 CONSTRUCTION LIMITS, ITEMS COMPLETED, AND ITEMS REMAINING AS PART OF PHASE 2 FULL CONSTRUCTION.
4. DIMS ARE TO BUILDING FACE AND FLOWLINE UNLESS OTHERWISE NOTED.



SITE PLAN
SHEET 3 OF 22

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

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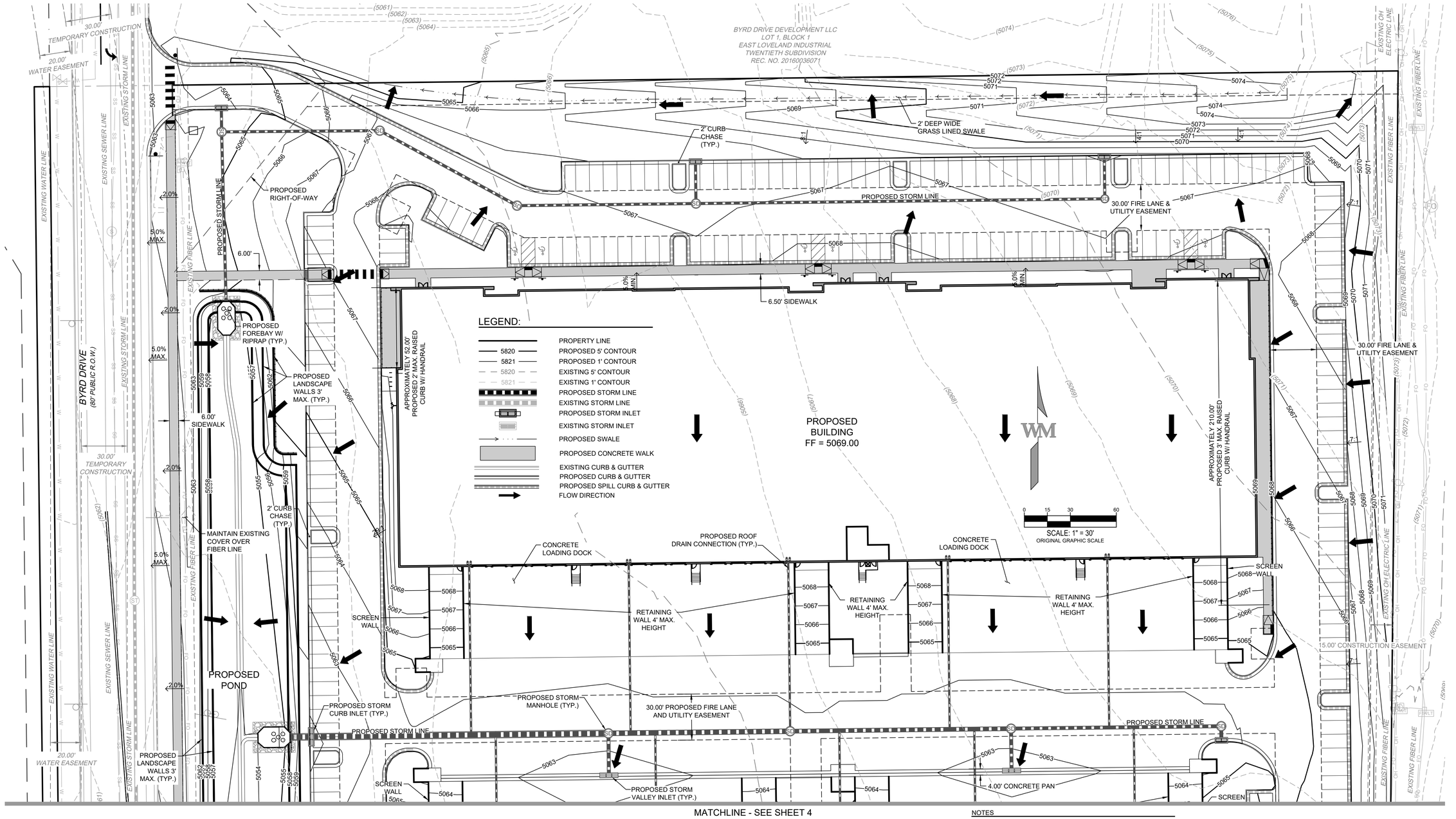

NOTES

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES WITH THE PROPOSED ELEVATIONS SHOWN ON THE GRADING PLAN. THE ENGINEER WILL NOT BE LIABLE FOR ANY COSTS ASSOCIATED WITH CHANGES TO THE DESIGN WITHOUT PROPER NOTIFICATION.
2. SIDEWALKS AND LANDINGS SHALL SLOPE 2.0% TOWARDS ROADS, DRIVE LANES, AND PARKING AREAS UNLESS NOTED OTHERWISE.

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
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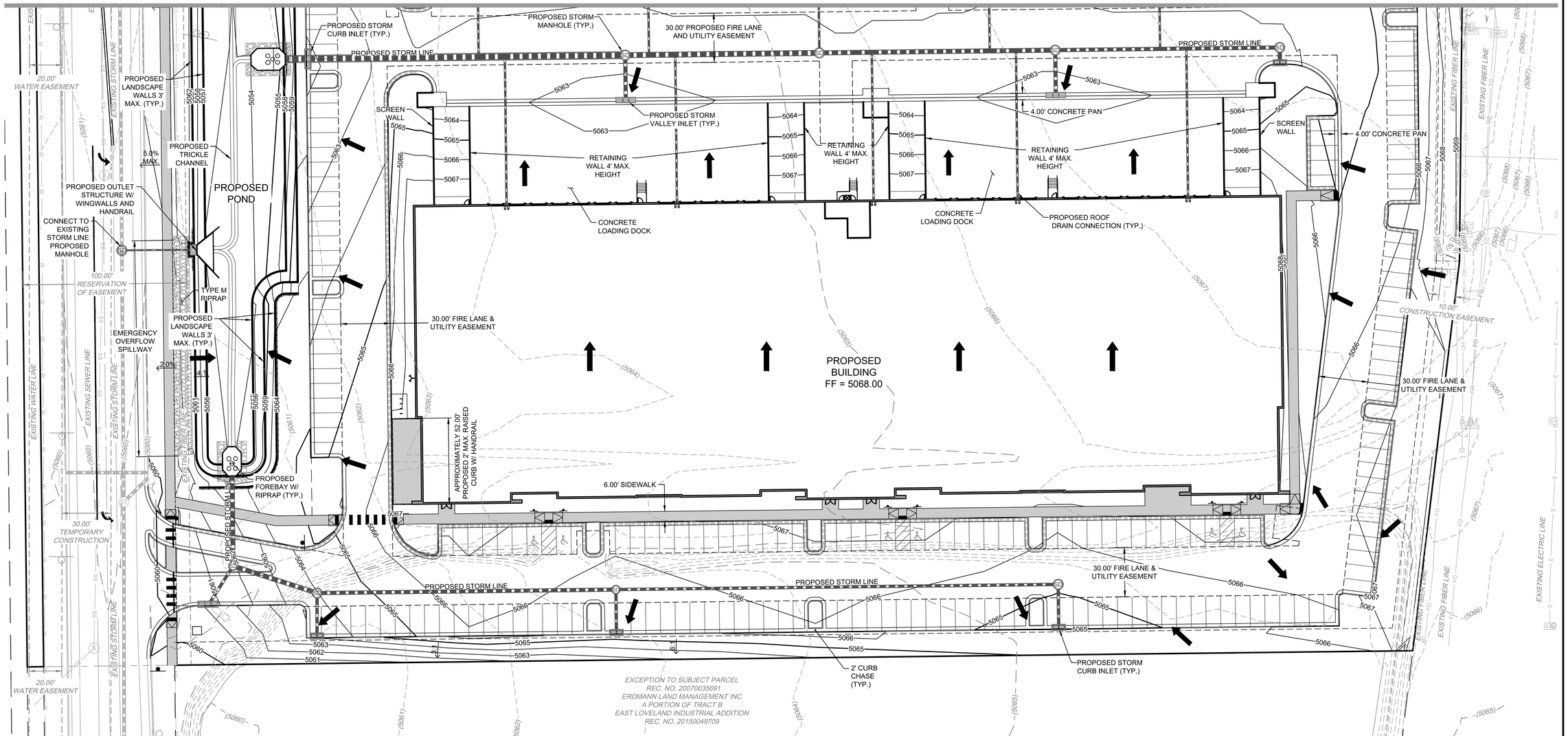
LEGEND:

- PROPERTY LINE
- 5820 — PROPOSED 5' CONTOUR
- 5821 — PROPOSED 1' CONTOUR
- 5820 — EXISTING 5' CONTOUR
- 5821 — EXISTING 1' CONTOUR
- PROPOSED STORM LINE
- EXISTING STORM LINE
- PROPOSED STORM INLET
- EXISTING STORM INLET
- PROPOSED SWALE
- PROPOSED CONCRETE WALK
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- PROPOSED SPILL CURB & GUTTER
- FLOW DIRECTION

0 15 30 60
SCALE: 1" = 30'
ORIGINAL GRAPHIC SCALE

NOTES

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES WITH THE PROPOSED ELEVATIONS SHOWN ON THE GRADING PLAN. THE ENGINEER WILL NOT BE LIABLE FOR ANY COSTS ASSOCIATED WITH CHANGES TO THE DESIGN WITHOUT PROPER NOTIFICATION.
2. SIDEWALKS AND LANDINGS SHALL SLOPE 2.0% TOWARDS ROADS, DRIVE LANES, AND PARKING AREAS UNLESS NOTED OTHERWISE.



GRADING PLAN
SHEET 5 OF 22

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

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BYRD DRIVE DEVELOPMENT LLC
LOT 1, BLOCK 1
EAST LOVELAND INDUSTRIAL
TWENTIETH SUBDIVISION
REC. NO. 20160036071

30.00' TEMPORARY CONSTRUCTION
20.00' WATER EASEMENT
EXISTING FIRE HYDRANT TO BE RELOCATED
CONNECT TO EXISTING WATERLINE
EXISTING WATER LINE
EXISTING STORM LINE
EXISTING SANITARY LINE
PROPOSED STORM LINE
PROPOSED RIGHT-OF-WAY
PROPOSED WATER LINE
10.00' MIN. (TYP.)
PROPOSED STORM LINE
PROPOSED WATER LINE
30.00' FIRE LANE & UTILITY EASEMENT
PROPOSED LIGHT POLE (TYP.)
EXISTING OH ELECTRIC LINE
EXISTING FIBER LINE
EXISTING FIBER LINE
CONNECT TO EXISTING WATERLINE
PROPOSED FIRE HYDRANT RELOCATED
EXISTING RIGHT-OF-WAY
BYRD DRIVE
(80' PUBLIC R.O.W.)
EXISTING STORM LINE
EXISTING FIBER LINE
PROPOSED STORM LINE
PROPOSED FOREBAY W/ RIPRAP (TYP.)
PROPOSED BUILDING LIGHTS (TYP.)
30.00' FIRE LANE & UTILITY EASEMENT
PROPOSED FIRE DEPARTMENT CONNECTION
PROPOSED SANITARY MANHOLE (TYP.)
PROPOSED SANITARY SERVICE (RE: PLUMBING PLANS)
PROPOSED WATER LINE
PROPOSED WATER LINE
30.00' TEMPORARY CONSTRUCTION
MAINTAIN EXISTING COVER OVER FIBER LINE
PROPOSED POND
PROPOSED SANITARY LINE
PROPOSED ROOF DRAIN CONNECTION (TYP.)
PROPOSED KNOX BOX
10.00' MIN. (TYP.)
PROPOSED WATER VAULT
PROPOSED FIRE HYDRANT (TYP.)
15.00' CONSTRUCTION EASEMENT
PROPOSED DOMESTIC SERVICES
PROPOSED FIRE LINE
PROPOSED STORM MANHOLE (TYP.)
PROPOSED WATER LINE
30.00' PROPOSED FIRE LANE AND UTILITY EASEMENT
PROPOSED STORM LINE
PROPOSED STORM LINE
PROPOSED DOMESTIC SERVICES
PROPOSED FIRE LINE
PROPOSED WATER VAULT
PROPOSED STORM VALLEY INLET (TYP.)
EXISTING WATER LINE
EXISTING SANITARY LINE
EXISTING STORM LINE
EXISTING FIBER LINE
20.00' WATER EASEMENT
EXISTING OH ELECTRIC LINE
EXISTING FIBER LINE
EXISTING FIBER LINE
INTERSTATE - 25
(PUBLIC R.O.W. VARIES)
BYRD DRIVE DEVELOPMENT LLC
TRACT 1, BLOCK 1
EAST LOVELAND INDUSTRIAL
TWENTIETH SUBDIVISION
REC. NO. 20160036071
MATCHLINE - SEE SHEET 6

UTILITY NOTES:

1. ALL FIRE HYDRANTS SHALL BE LOCATED NOT LESS THAN THREE FEET - SIX INCHES (3' – 6") AND NOT MORE THAN 8 FEET FROM THE BACK OF CURB TO THE CENTER OF THE HYDRANT AND BE UNOBSTRUCTED ON THE STREET SIDE. MINIMUM CLEARANCE ON ALL OTHER SIDES SHALL BE 5 FEET. FIRE HYDRANTS MUST BE GRADE STAKED IN THE FIELD. FIRE HYDRANTS ARE NOT ALLOWED IN SIDEWALKS.
2. ALL FIRE HYDRANTS MUST BE GRADE STAKED IN THE FIELD WHENEVER CURB AND GUTTER HAS NOT BEEN INSTALLED.
3. ALL UTILITY EASEMENTS MUST REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE EQUIPMENT.
4. WATER LINE VALVES ARE NOT ALLOWED IN CROSS PANS.
5. ALL WATER METERS, WATER SERVICE LINES AND SANITARY SEWER SERVICE LINES ARE NOT ALLOWED IN OR UNDER DRIVEWAYS.
6. REDUCED PRESSURE PRINCIPE BACKFLOW PREVENTION DEVICES ARE REQUIRED ON THE DOMESTIC AND FIRE LINE SERVICES, AND ON ANY IRRIGATION SERVICE OR BRANCH OFF THE DOMESTIC.
7. MECHANICAL JOINT RESTRAINTS ARE REQUIRED ON ALL WATER FITTINGS WITH ADDITIONAL JOINT RESTRAINT LENGTH DETERMINED BY THE ENGINEER BASED ON UNBALANCED THRUST FORCES.

FIRE FLOW DATA

FIRE FLOW REQUIREMENTS ARE 6750 **GPM** MIN. (3,**375 GPM** MIN. W/ 50% REDUCTION) @ 20 PSI RESIDUAL PRESSURE.

THIS BUILDING REQUIRES **4** FIRE HYDRANTS @ 350' SPACING TO MEET FIRE-FLOW REQUIREMENTS.

EACH FIRE HYDRANT MUST SUPPLY 1500 GPM MINIMUM @ 20 PSI RESIDUAL PRESSURE.

CODE USED FOR ANALYSIS: 2015 IFC
OCCUPANCY GROUP: COMMERCIAL
CONSTRUCTION TYPE: **II-B** (COMMERCIAL)
FIRE AREA: 100,**722± SF**
THIS BUILDING IS FULLY SPRINKLERED

PROPOSED BUILDING

LEGEND:

- PROPERTY LINE
- UTILITY CROSSING
- PROPOSED STORM LINE
- EXISTING STORM LINE
- PROPOSED STORM INLET
- EXISTING STORM INLET
- PROPOSED SANITARY SEWER W/ MANHOLE
- EXISTING SANITARY SEWER W/ MANHOLE
- PROPOSED WATERLINE & VALVE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED WATER METER
- PROPOSED LIGHT POLE
- PROPOSED BUILDING LIGHTS
- EXISTING WATERLINE & VALVE
- EXISTING FIRE HYDRANT
- EXISTING GAS LINE
- EXISTING TELEPHONE LINE
- EXISTING ELECTRIC LINE
- EXISTING CABLE TV LINE
- EXISTING OVERHEAD LINE
- EXISTING FIBER OPTIC LINE
- EXISTING IRRIGATION LINE
- EXISTING SPRINKLER CONTROL
- EXISTING LIGHT POLE

0 15 30 60
SCALE: 1" = 30'
ORIGINAL GRAPHIC SCALE

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

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UTILITY NOTES:

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7. MECHANICAL JOINT RESTRAINTS ARE REQUIRED ON ALL WATER FITTINGS WITH ADDITIONAL JOINT RESTRAINT LENGTH DETERMINED BY THE ENGINEER BASED ON UNBALANCED THRUST FORCES.

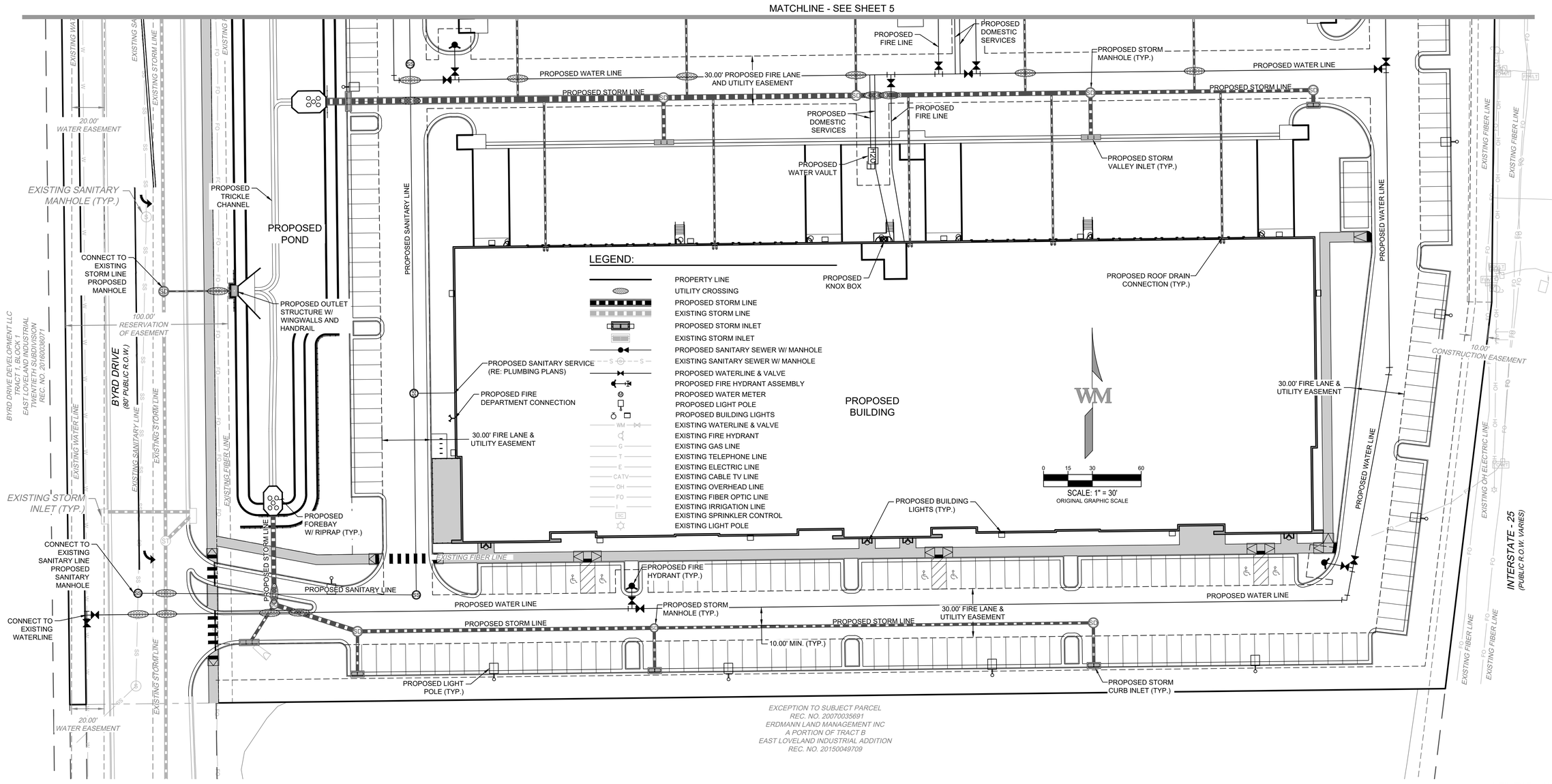
FIRE FLOW DATA

FIRE FLOW REQUIREMENTS ARE 6500 **GPM** MIN. (1,687.5 **GPM** MIN. W/ 75% REDUCTION) @ 20 PSI RESIDUAL PRESSURE.

THIS BUILDING REQUIRES **4** FIRE HYDRANTS @ 350' SPACING TO MEET FIRE-FLOW REQUIREMENTS.

EACH FIRE HYDRANT MUST SUPPLY 1500 GPM MINIMUM @ 20 PSI RESIDUAL PRESSURE.

CODE USED FOR ANALYSIS: 2012 IFC
OCCUPANCY GROUP: COMMERCIAL
CONSTRUCTION TYPE: **II-B** (COMMERCIAL)
FIRE AREA: 95,**256± SF**
THIS BUILDING IS FULLY SPRINKLERED



UTILITY PLAN
SHEET 7 OF 22

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION CONDITIONAL USE SITE DEVELOPMENT PLAN

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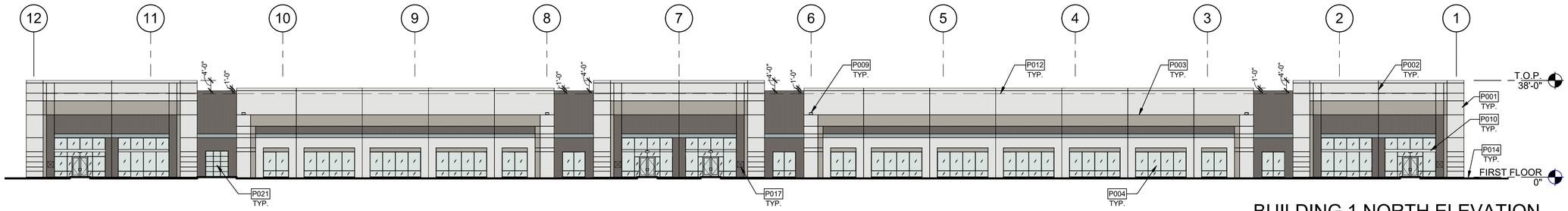
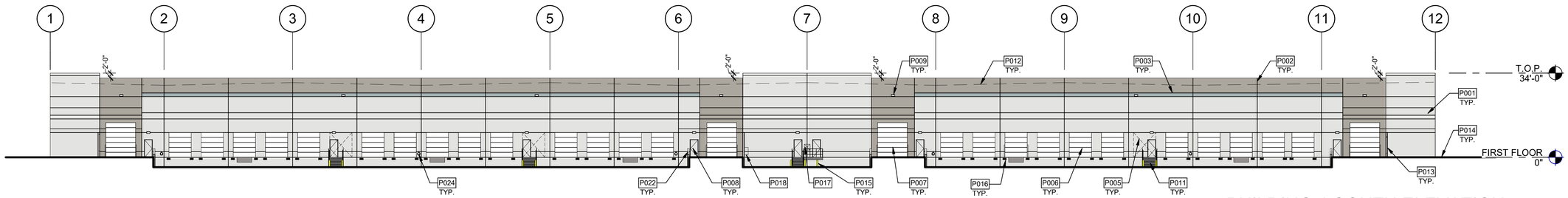


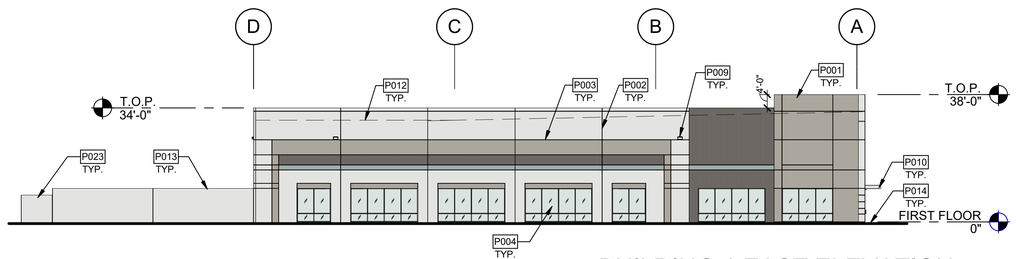
BUILDING 1 NORTH ELEVATION 1

SCALE: 3/64" = 1'-0"



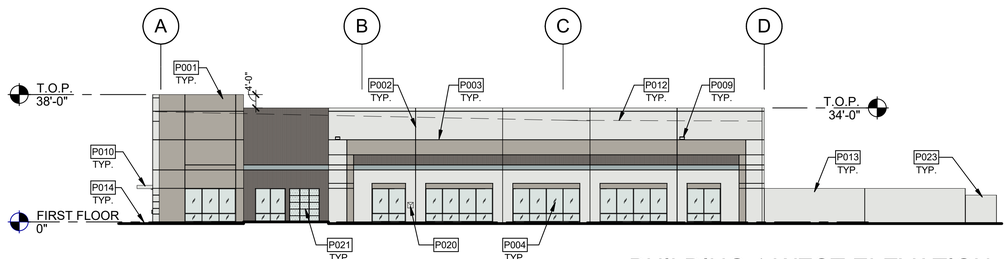
BUILDING 1 SOUTH ELEVATION 2

SCALE: 3/64" = 1'-0"



BUILDING 1 EAST ELEVATION 4

SCALE: 3/64" = 1'-0"



BUILDING 1 WEST ELEVATION 3

SCALE: 3/64" = 1'-0"

NOTE:

FINAL RTU LOCATIONS PENDING MECHANICAL DESIGN. RTUs TO BE SET ON ROOF IN ZONES SET BACK FROM PARAPET TO UTILIZE PARAPET HEIGHT TO FULLY SCREEN RTUs FROM PROPERTY LINE / R.O.W.

LEGEND

COLORS:

- BASE COLOR: SHERWIN WILLIAMS SW 6252 - ICE CUBE
- SECONDARY COLOR: SHERWIN WILLIAMS SW 7019 - GAUNTLET GRAY WITH FORMLINER
- ACCENT COLOR: SHERWIN WILLIAMS SW 7017 - DORIAN GRAY
- ACCENT COLOR: SHERWIN WILLIAMS SW 7616 - BREEZY

NOTES: -

P001	CONCRETE TILT-UP PANEL - PAINTED.
P002	CONCRETE TILT-UP PANEL JOINT.
P003	3/4" V-REVEAL.
P004	THERMALLY BROKEN ALUMINUM STOREFRONT WITH CLEAR ANODIZED FRAME AND 1" INSULATED GLAZING.
P005	KNOCKOUT PANEL FOR FUTURE OPENINGS.
P006	9' X 10' TRUCK DOCK DOOR, PRE-FINISHED WHITE.
P007	12' X 14' DRIVE-UP DOOR, PRE-FINISHED WHITE.
P008	HOLLOW METAL MAN DOOR - PAINTED TO MATCH ADJACENT WALL.
P009	BUILDING MOUNTED LIGHTING, SEE ELECTRICAL.
P010	TUBE STEEL CANOPY, PAINTED TO MATCH BASE COLOR.
P011	GALVANIZED EXTERIOR STEEL STAIRS.
P012	ROOF LINE, BEYOND.
P013	CONCRETE SCREEN WALL, PAINTED TO MATCH BASE COLOR.
P014	FINISH GRADE VARIES, SEE CIVIL.
P015	CONCRETE BOLLARD.
P016	DOCK BUMPERS. TYPICAL AT ALL O.H. DOORS.
P017	KNOX BOX MOUNTED TO WALL.
P018	ELECTRICAL EQUIPMENT MOUNTED TO CONCRETE WALL.
P020	FDC WITH APPROVED KNOX HARDWARE.
P021	9' X 10' O.H. DOOR.
P022	CONCRETE RAMP WALL, PAINTED TO MATCH ADJACENT WALL COLOR.
P023	CONCRETE TRASH ENCLOSURE.
P024	OVERFLOW DRAIN LAMB'S TONGUE.

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION CONDITIONAL USE SITE DEVELOPMENT PLAN

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 6 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO.

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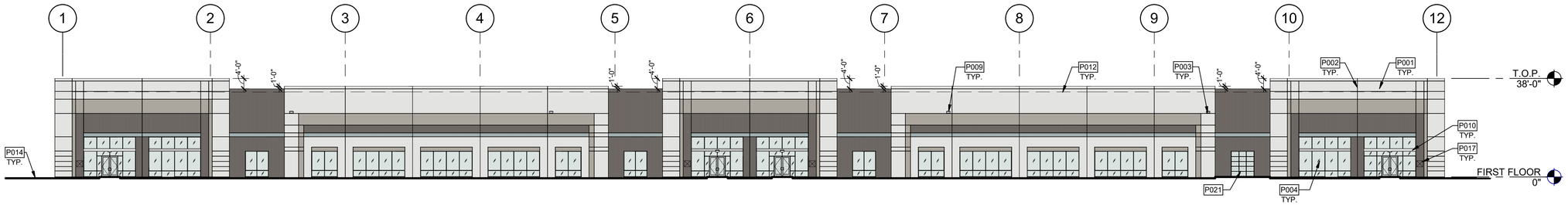
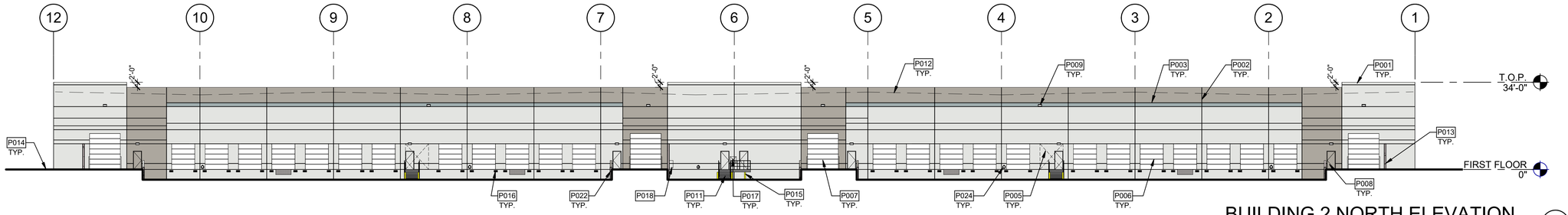


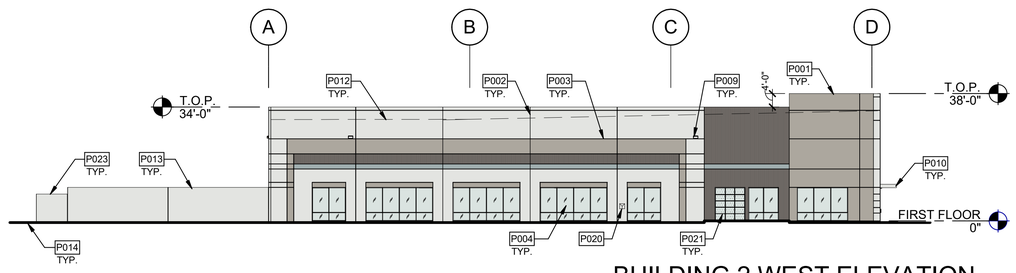
BUILDING 2 SOUTH ELEVATION 1

SCALE: 3/64" = 1'-0"



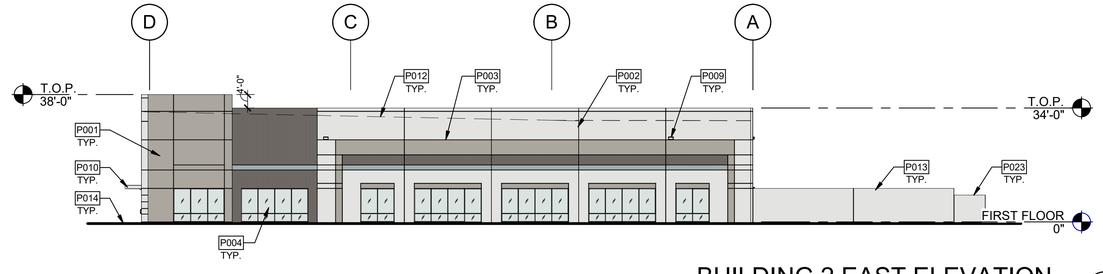
BUILDING 2 NORTH ELEVATION 2

SCALE: 3/64" = 1'-0"



BUILDING 2 WEST ELEVATION 4

SCALE: 3/64" = 1'-0"



BUILDING 2 EAST ELEVATION 3

SCALE: 3/64" = 1'-0"

NOTE:

FINAL RTU LOCATIONS PENDING MECHANICAL DESIGN. RTUs TO BE SET ON ROOF IN ZONES SET BACK FROM PARAPET TO UTILIZE PARAPET HEIGHT TO FULLY SCREEN RTUs FROM PROPERTY LINE / R.O.W.

LEGEND

COLORS:

- BASE COLOR: SHERWIN WILLIAMS SW 6252 - ICE CUBE
- SECONDARY COLOR: SHERWIN WILLIAMS SW 7019 - GAUNTLET GRAY WITH FORMLINER
- ACCENT COLOR: SHERWIN WILLIAMS SW 7017 - DORIAN GRAY
- ACCENT COLOR: SHERWIN WILLIAMS SW 7616 - BREEZY

NOTES: -

P001	CONCRETE TILT-UP PANEL - PAINTED.
P002	CONCRETE TILT-UP PANEL JOINT.
P003	3/4" V-REVEAL.
P004	THERMALLY BROKEN ALUMINUM STOREFRONT WITH CLEAR ANODIZED FRAME AND 1" INSULATED GLAZING.
P005	KNOCKOUT PANEL FOR FUTURE OPENINGS.
P006	9' X 10' TRUCK DOCK DOOR, PRE-FINISHED WHITE.
P007	12' X 14' DRIVE-UP DOOR, PRE-FINISHED WHITE.
P008	HOLLOW METAL MAN DOOR - PAINTED TO MATCH ADJACENT WALL.
P009	BUILDING MOUNTED LIGHTING, SEE ELECTRICAL.
P010	TUBE STEEL CANOPY, PAINTED TO MATCH BASE COLOR.
P011	GALVANIZED EXTERIOR STEEL STAIRS.
P012	ROOF LINE, BEYOND.
P013	CONCRETE SCREEN WALL, PAINTED TO MATCH BASE COLOR.
P014	FINISH GRADE VARIES, SEE CIVIL.
P015	CONCRETE BOLLARD.
P016	DOCK BUMPERS. TYPICAL AT ALL O.H. DOORS.
P017	KNOX BOX MOUNTED TO WALL.
P018	ELECTRICAL EQUIPMENT MOUNTED TO CONCRETE WALL.
P020	FDC WITH APPROVED KNOX HARDWARE.
P021	9' X 10' O.H. DOOR.
P022	CONCRETE RAMP WALL, PAINTED TO MATCH ADJACENT WALL COLOR.
P023	CONCRETE TRASH ENCLOSURE.
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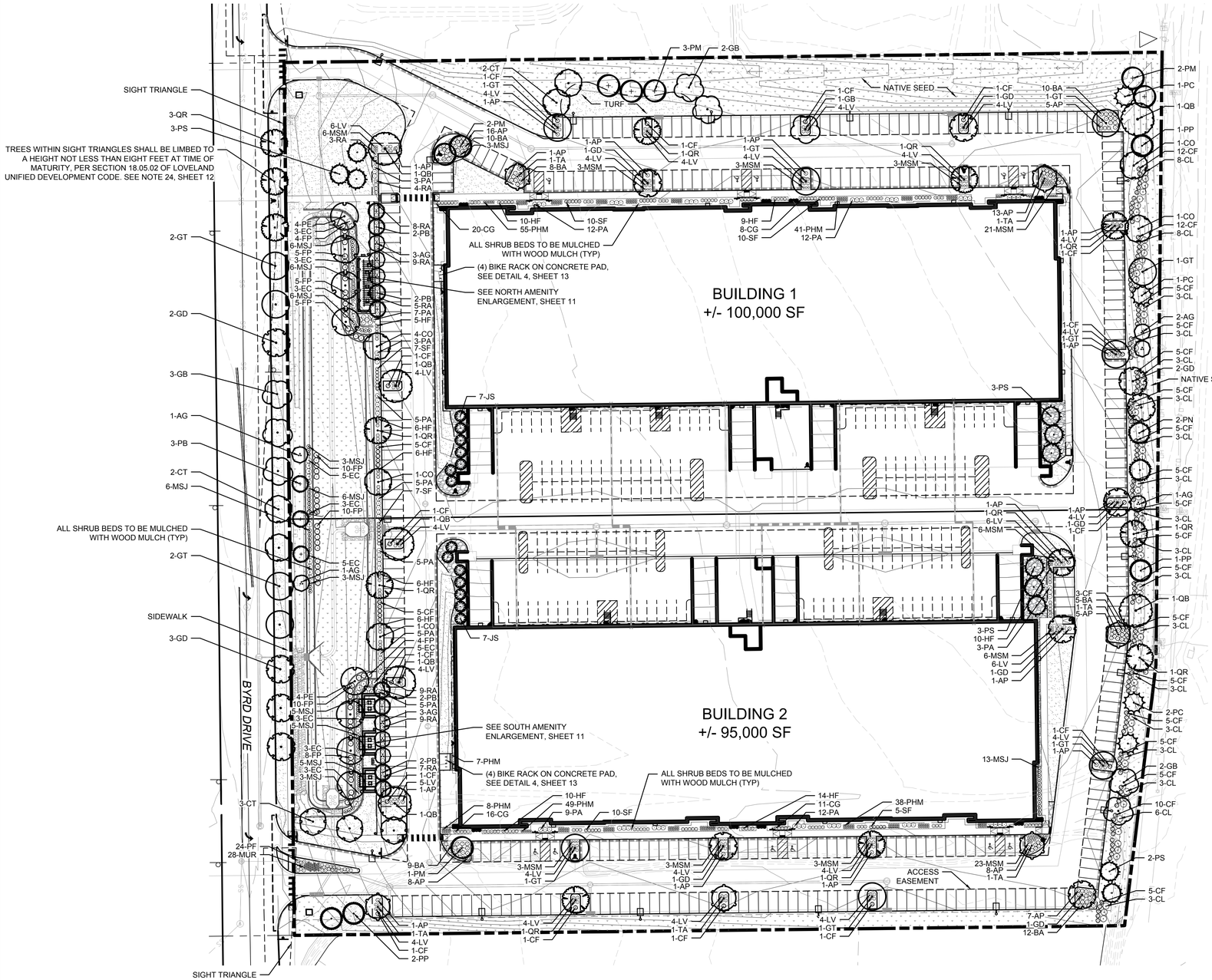

LEGEND

- PROPERTY BOUNDARY
- EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- FIRE HYDRANT
- 6' BENCH - SEE DETAIL 2, SHEET 13
- TRASH RECEPTACLE - SEE DETAIL 1, SHEET 13
- BIKE RACK ON CONCRETE PAD - SEE DETAIL 4, SHEET 13
- ROAD SIGN
- STEEL EDGER - SEE DETAIL 3, SHEET 14
- CONCRETE WALK
- 'RFT' WATER SAVER SOD
- NATIVE SEED
- ROCK MULCH

NORTH

0' 25' 50' 100'

SCALE 1" = 50'

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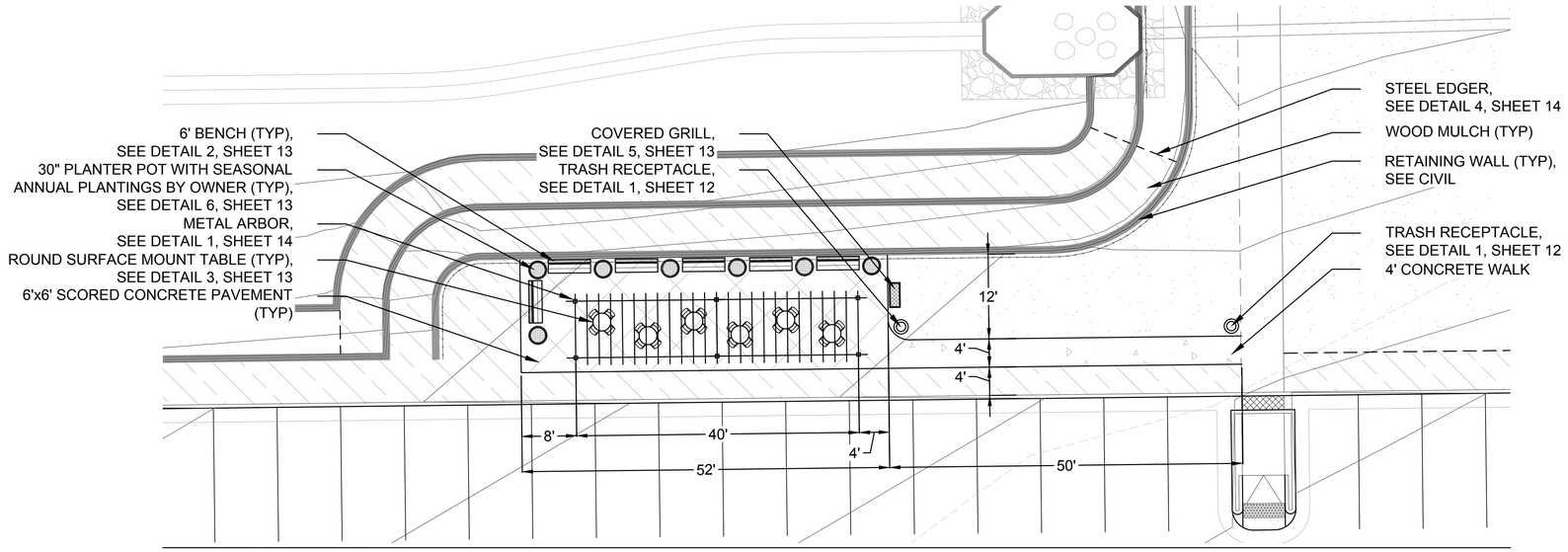
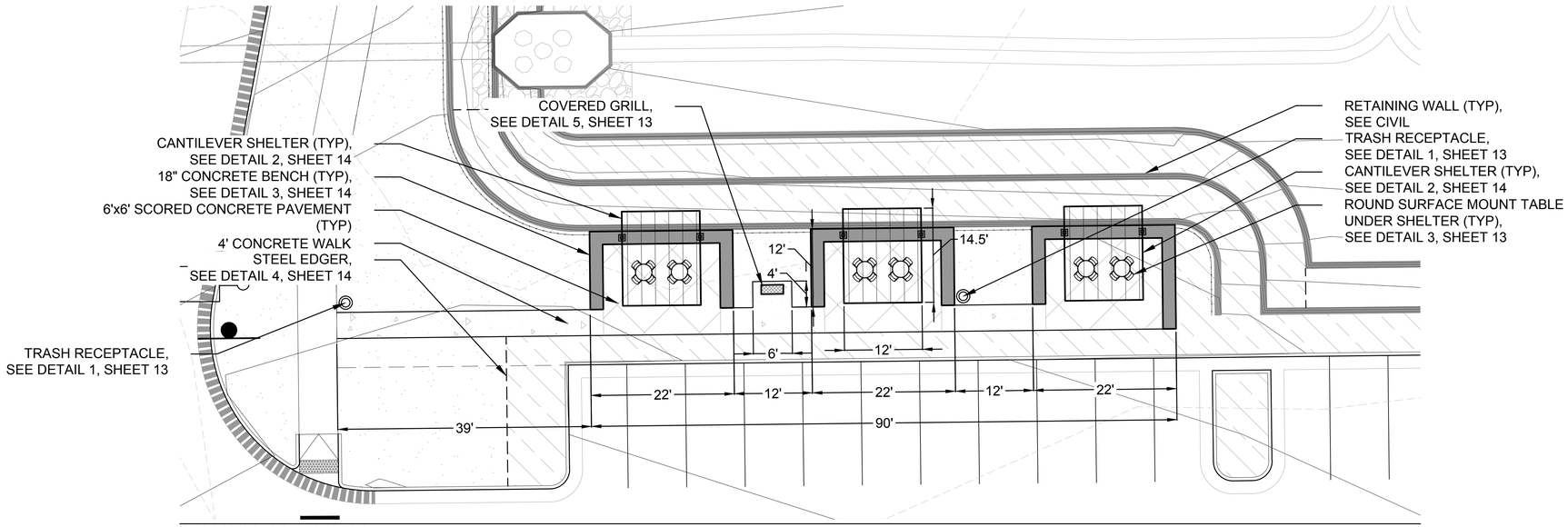


NORTH AMENITY



SOUTH AMENITY

LEGEND

- EASEMENT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- FIRE HYDRANT
- 6' BENCH - SEE DETAIL 2, SHEET 13
- TRASH RECEPTACLE - SEE DETAIL 1, SHEET 13
- PLANTER POT WITH SEASONAL PLANTING BY OWNER - SEE DETAIL 6, SHEET 13
- ROUND SURFACE MOUNT TABLE - SEE DETAIL 3, SHEET 13
- STEEL EDGER - SEE DETAIL 3, SHEET 14
- CONCRETE WALK
- 'RFT' WATER SAVER SOD
- NATIVE SEED
- ROCK MULCH

NORTH
0' 5' 10' 20'
SCALE 1" = 10'

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LANDSCAPE NOTES

1. THE REPRODUCTION OF ANY INFORMATION GENERATED BY ENGINEERS AND ARCHITECTS ON THESE DRAWINGS IS FOR THE EXPRESS PURPOSE OF COORDINATION AND EASE OF REFERENCE ONLY. INCLUSION OF SAID INFORMATION ON THESE DRAWINGS DOES NOT CONSTITUTE A REPRESENTATION BY PLAN WEST, INC. AS TO THE SUFFICIENCY OR ACCURACY OF SAID INFORMATION.
2. VERIFY FIELD CONDITIONS AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK. PROVIDE A STAKED LAYOUT OF NEW SITE IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO, PLANTING LAYOUT, BED LINES, CONCRETE FLATWORK, ENTRY MONUMENTATION, LANDSCAPE WALLS, CONCRETE CURBS, AND TURF AREAS FOR APPROVAL PRIOR TO BEGINNING WORK.
3. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ACTUAL CONSTRUCTION. FOR INFORMATION CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO @ 1-800-922-1987.
4. CONTRACTOR SHALL SECURE AND PAY ALL APPLICABLE TAXES, PERMITS AND FEES IN CONNECTION WITH THE WORK UNDER THE CONTRACT, PROVIDE FOR PROTECTION OF ALL UTILITIES, PRIVATE OR PUBLIC PROPERTY, PUBLIC SAFETY, AND EXISTING SITE IMPROVEMENTS FOR THE DURATION OF THE CONTRACT AND COSTS TO THE OWNER . THE CONTRACTOR SHALL KEEP THE PREMISES CLEAN AND ORDERLY AND DISPOSE OF WASTE AND DEBRIS AT AN APPROVED LOCATION OFF-SITE DAILY DURING CONSTRUCTION AND PRIOR TO FINAL ACCEPTANCE.
5. LANDSCAPING SHALL BE WARRANTED FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE. WARRANTY SHALL INCLUDE, BUT NOT BE LIMITED TO PLANT MATERIAL INCLUDING TREES, SHRUBS, AND GROUND COVERS SHALL BE WARRANTED AGAINST DEATH OR UNSATISFACTORY GROWTH. PLANTS SHALL BE REPLACED BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER DURING THE WARRANTY PERIOD. ANY AREAS DAMAGED BY REPLACEMENT SHALL BE RESTORED TO ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE. WARRANTY PERIOD TO BE EXTENDED AT THIS TIME. THE WARRANTY SHALL ALSO INCLUDE ALL EQUIPMENT AND WORKMANSHIP FOR THE IRRIGATION SYSTEM.
6. ALL PLANT MATERIALS SHALL BE IN ACCORDANCE WITH AMERICAN ASSOCIATION OF NURSERY MEN SPECIFICATION FOR NUMBER ONE GRADE.
7. ALL TURF AREAS TO BE IRRIGATED WITH AUTOMATIC POP-UP IRRIGATION SYSTEM. ALL SHRUB BEDS AND TREES TO BE IRRIGATED WITH AN AUTOMATIC DRIP (TRICKLE) IRRIGATION SYSTEM, OR ACCEPTABLE ALTERNATIVE. THE IRRIGATION SYSTEM IS TO BE ADJUSTED TO MEET THE WATER REQUIREMENTS OF THE INDIVIDUAL PLANT MATERIAL.
8. ALL SHRUB BEDS TO BE MULCHED WITH WOOD MULCH (3" AVERAGE DEPTH).
9. EDGING SHALL BE INSTALLED BETWEEN GRASS AND SHRUB BEDS, SET LEVEL WITH TOP OF SOD.
10. CHANGES IN PLANT SPECIES OR PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE CITY OF LOVELAND DEVELOPMENT SERVICES DEPARTMENT PRIOR TO INSTALLATION OR REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
11. STREET AND ORNAMENTAL TREES SHALL BE PLANTED NO CLOSER THAN FORTY (40) FEET AND FIFTEEN (15) FEET RESPECTIVELY FROM STREET LIGHTS. NO TREES SHALL BE PLANTED WITHIN TEN (10) FEET FROM WATER AND SEWER LINES, FOUR (4) FEET FROM GAS, TELEPHONE AND ELECTRIC UTILITIES, AND TEN (10) FEET FROM ANY DRIVEWAY.
12. MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
13. THE IRRIGATION SYSTEM SHALL BE INSTALLED OR SECURED WITH THE CITY OF LOVELAND PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
14. DEVELOPER SHALL ENSURE THAT THE LANDSCAPE PLAN IS COORDINATED WITH THE PLANS DONE BY OTHER CONSULTANTS SO THE PROPOSED GRADING, STORM DRAINAGE, OR OTHER CONSTRUCTION DOES NOT CONFLICT NOR PRECLUDE INSTALLATION AND MAINTENANCE OF LANDSCAPE ELEMENTS ON THIS PLAN.
15. PRIOR TO INSTALLATION OF PLANT MATERIALS, ORGANIC AMENDMENTS SUCH AS COMPOST, PEAT, OR AGED MANURE SHALL BE THOROUGHLY INCORPORATED AT A RATE OF AT LEAST FOUR (4) CUBIC YARDS PER 1,000 SQUARE FEET AND TILLED TO A DEPTH OF SIX (6) INCHES. A SOIL TEST IS RECOMMENDED TO DETERMINE APPROXIMATE SOIL MIX.
16. TURF GRASS WILL BE SEEDED OR SODDED WITH DROUGHT TOLERANT BLEND. TREES TO BE PLANTED IN TURF AREAS WILL BE INSTALLED WITH AN ORGANIC MULCH RING THAT HAS AT LEAST TWELVE (12) INCHES OF COVERAGE OUTSIDE OF THE ORIGINAL ROOT BALL.
17. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
18. NO SUBSTANTIAL IMPEDIMENT TO VISIBILITY BETWEEN THE HEIGHTS OF THREE (3) FEET AND EIGHT (8) FEET SHALL BE CREATED OR MAINTAINED AT STREET INTERSECTIONS WITHIN A SITE TRIANGLE AS DESCRIBED WITHIN THE LARIMER COUNTY URBAN AREA STREET STANDARDS.
19. IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE OR DEATH, THE PLANTS MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS APPROVED BY THE CITY OF LOVELAND DEVELOPMENT SERVICES DEPARTMENT.
20. CONTRACTOR SHALL CONSTRUCT PROJECT AS ILLUSTRATED IN CONSTRUCTION DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL QUANTITIES.
21. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
22. ALL UTILITY EASEMENTS SHALL REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE EQUIPMENT ENTRY.
23. ALL TREES SHALL BE A MINIMUM OF 10 FEET FROM ALL STORM SEWERS AND ALL SHRUBS SHALL BE A MINIMUM OF 5 FEET FROM ALL STORM SEWERS.
24. ALL TREES, SHRUBS, AND OTHER PLANT MATERIALS LOCATED WITHIN CLEAR SIGHT TRIANGLES SHALL BE TRIMMED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 7 OF THE LARIMER COUNTY URBAN AREA STREET STANDARDS (LCUASS). UNDER CURRENT LCUASS REQUIREMENTS, TREES SHALL BE LIMBED TO A HEIGHT OF NOT LESS THAN EIGHT (8) FEET AND SHRUBS AND OTHER PLANT MATERIALS SHALL BE MAINTAINED AT A HEIGHT OF NOT MORE THAN THIRTY (30) INCHES, AND SAID MAINTENANCE SHALL BE CONDUCED IN PERPETUITY. TREES ARE ALSO REQUIRED TO BE KEPT LIMBED UP A MINIMUM OF 8' ABOVE ALL SIDEWALKS.

PLANT SCHEDULE

TREES	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	CAL
	CO	9	Common Hackberry	Celtis occidentalis	15 gal	2.5"Cal
	CT	3	Turkish Filbert	Corylus colurna	15 gal	2.5"Cal
	GB	8	Ginkgo Tree	Ginkgo biloba `Autumn Gold` TM	15 gal	2.5"Cal
	GT	12	Shademaster Locust	Gleditsia triacanthos inermis `Shademaster`	15 gal	2.5"Cal
	GD	12	Kentucky Coffeetree	Gymnocladus dioica `Espresso`	15 gal	2.5"Cal
	PE	8	Exclamation London Plane Tree	Platanus x acerifolia `Exclamation`	15 gal	2.5"Cal
	QB	7	Texas Red Oak	Quercus buckleyi	15 gal	2.5"Cal
	QR	13	English Oak	Quercus robur	15 gal	2.5"Cal
	TA	6	American Linden	Tilia americana	15 gal	2.5"Cal

EVERGREEN TREES	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	SIZE
	JS	14	Rocky Mountain Juniper	Juniperus scopulorum	15 gal	6-8` Tall
	PC	4	Colorado Spruce	Picea pungens	15 gal	6-8` Tall
	PN	2	Austrian Black Pine	Pinus nigra	15 gal	6-8` Tall
	PP	4	Ponderosa Pine	Pinus ponderosa	15 gal	6-8` Tall
	PS	11	Scotch Pine	Pinus sylvestris	15 gal	6-8` Tall

ORNAMENTAL TREE	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT	SIZE
	AG	11	`Autumn Brilliance` Serviceberry	Amelanchier x grandiflora `Autumn Brilliance`	15 gal	6-8` Cl
	PM	8	Amur Chokecherry	Prunus maackii	15 gal	2"Cal
	PB	11	Autumn Blaze Pear	Pyrus calleryana `Autumn Blaze`	15 gal	2"Cal

SHRUBS	CODE	QTY	COMMON NAME	BOTANICAL NAME	SIZE
	AL	20	Leadplant	Amorpha canescens	5 gal
	AP	76	Panchito Manzanita	Arctostaphylos `Panchito`	5 gal
	BA	54	Red Leaf Japanese Barberry	Berberis thunbergii `Atropurpurea`	5 gal
	CG	55	Globe Peashrub	Caragana frutex `Globosa`	5 gal
	CF	138	Fernbush	Chamaebatiaria millefolium `Fernbush`	5 gal
	CL	67	Peking Cotoneaster	Cotoneaster lucidus	5 gal
	EC	36	Compact Burning Bush	Euonymus alatus `Compactus`	5 gal
	FP	60	New Mexico Privet	Forestiera pubescens var. pubescens	5 gal
	HF	82	Sunburst Hypericum	Hypericum frondosum `Sunburst`	5 gal
	LV	107	Lodense Privet	Ligustrum vulgare `Lodense`	5 gal
	PA	86	Russian Sage	Perovskia atriplicifolia	5 gal
	PF	24	Sutter`s Gold Potentilla	Potentilla fruticosa `Sutters Gold`	5 gal
	RA	54	Alpine Currant	Ribes alpinum	5 gal
	SF	49	Froebel Spirea	Spiraea japonica `Froebelii`	5 gal

ORNAMENTAL GRASS	CODE	QTY	COMMON NAME	BOTANICAL NAME	SIZE
	MSM	81	Eulalia Grass	Miscanthus sinensis `Morning Light`	5 gal
	MSJ	70	Yaku Jima Dwarf Maiden Grass	Miscanthus sinensis `Yaku Jima`	5 gal
	MUR	28	Undaunted Ruby Muhly	Muhlenbergia reverchonii Undaunted	5 gal
	PHM	198	Blue Switch Grass	Panicum virgatum `Heavy Metal`	5 gal

PERENNIALS	CODE	QTY	COMMON NAME	BOTANICAL NAME	SIZE
	KSH	7	Red Hot Poker	Kniphofia x `Stark`s Early Hybrids`	5 gal

TURF SOD	QTY	SPECIES
	+/- 31,000	'RFT' WATER SAVER

NATIVE SEED MIX	QTY	SPECIES	% OF MIX
	+/-100,000 SF	CANADA WILDRYE	20%
		CRESTED WHEATGRASS	15%
		SLENDER WHEATGRASS	15%
		ANNUAL RYEGRASS	10%
		SHEEP FESCUE	10%
		BIG BLUESTEM	10%
		SIDEOATS GRAMA	10%
		CANADA BLUEGRASS	5%
		BLUE GRAMA	5%

LANDSCAPE REQUIREMENTS		
STREET BUFFERYARDS		
EAST BUFFER AT I-25 (800 LF)		
PLANT TYPE	REQUIRED	PROVIDED
CANOPY TREE	11 TREES	11 TREES
FLOWERING TREE	11 TREES	13 TREES / LARGE SHRUBS
SHRUBS	28 SHRUBS	168 SHRUBS
EVERGREEN TREE	6 TREES	10 TREES
WEST BUFFER AT BYRD DRIVE (660 LF)		
PLANT TYPE	REQUIRED	PROVIDED
CANOPY TREE	9 TREES	16 TREES
FLOWERING TREE	9 TREES	14 TREES
SHRUB	23 SHRUBS	229 SHRUBS
EVERGREEN TREE	5 TREES	5 TREES
STREET TREES		
REQUIRED	DISTANCE	PROVIDED
1 TREE AT 35' ON CENTER	450'	16 TREES

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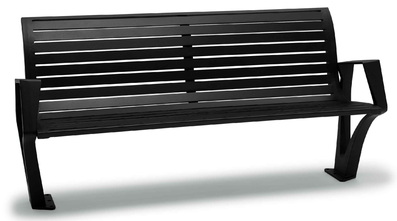
NOTES:
1. SEE PLANS FOR TRASH RECEPTACLE LOCATIONS
2. TRASH RECEPTACLE TO BE WABASH VALLEY URBANSCAPE, WOODRIDGE COLLECTION 32 GALLON WITH LINER. MODEL: WO3B39S
3. TRASH RECEPTACLE TO HAVE SOLID BONNET LID WITH SLAT PATTERN.
4. ALL TRASH RECEPTACLES TO BE SURFACE MOUNTED ON CONCRETE PAD, PER MANUFACTURERS RECOMMENDATIONS.

CAN COLOR: ESPRESSO
LID COLOR: MOCCASIN

1 TRASH RECEPTACLE ON CONCRETE PAD
1"=5'

NOTES:
1. SEE PLANS FOR TRASH RECEPTACLE LOCATIONS
2. BENCHES TO BE WABASH VALLEY URBANSCAPE, WOODRIDGE COLLECTION 6' BENCH WITH BACK AND ARMS. MODEL: WO1112S
3. BENCH TO HAVE FAUX-WOOD PATTERN.
4. ALL BENCHES TO BE SURFACE MOUNTED ON CONCRETE PAD, PER MANUFACTURERS RECOMMENDATIONS.

BENCH COLOR: ESPRESSO
LEG COLOR: MOCCASIN



2 6' SURFACE MOUNT BENCH
NOT TO SCALE

NOTES:
1. SEE PLANS FOR TABLE LOCATIONS
2. TABLES TO BE WABASH VALLEY URBANSCAPE, CAMDEN COLLECTION 36" ROUND TABLE WITH ATTACHED SEATS. MODEL: CAD422C
3. BENCH TO HAVE FAUX-WOOD PATTERN.
4. ALL TABLES TO BE SURFACE MOUNTED ON CONCRETE PAD, PER MANUFACTURERS RECOMMENDATIONS.

TOP AND SEAT COLOR: ESPRESSO
LEG COLOR: MOCCASIN

3 ROUND SURFACE MOUNT TABLE
NOT TO SCALE

NOTES:
1. SEE PLAN FOR BIKE RACK LOCATIONS
2. BIKE RACKS TO BE URBAN ACCESSORIES, MODEL: CURVES IN GRAY IRON, ASTM A48 WITH RAW FINISH.
3. ALL BIKE RACKS TO BE SURFACE MOUNTED, INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

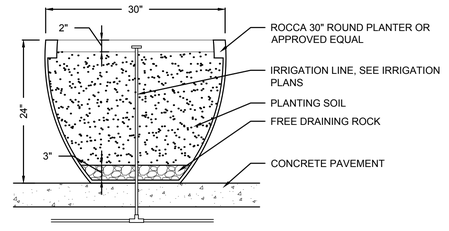
4 BIKE RACK ON CONCRETE PAD
NOT TO SCALE

NOTES:
1. SEE PLANS FOR GRILL LOCATIONS
2. GRILL TO BE WABASH VALLEY COVERED GRILL MODEL NO. GR105N
3. GRILLS TO BE PEDISTAL MOUNT, INSTALL PER MANUFACTURERS RECOMMENDATION

5 COVERED GRILL
NOT TO SCALE

NOTES:
1. SEE PLANS FOR POT LOCATIONS
2. PLANTER POTS TO BE PLANTERS UNLIMITED 30" ROCCA ROUND PLANTER, SKU: F1-ROC-R3024 OR APPROVED EQUAL
3. ALL PLANTER POTS TO BE IRRIGATED WITH AUTOMATIC IRRIGATION.

COLOR: PARCHMENT
FINISH: MATTE



6 PLANTER POT
NOT TO SCALE

PLANWEST
767 Santa Fe Drive
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(303) 741-1411
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PLANNING
SITE DESIGN
ENTITLEMENTS
LANDSCAPE ARCHITECTURE

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 6 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO.

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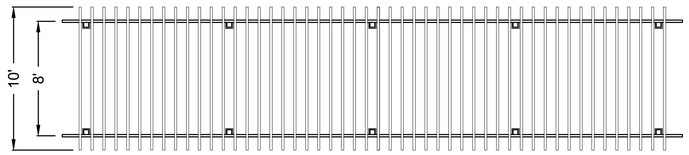
suite 350
denver, colorado 80202
p 720.488.2626

WARE MALCOMB
Leading Design for Commercial Real Estate

FIRST SDP SUBMITTAL 09/06/2019
SECOND SDP SUBMITTAL 10/28/2019

NOTES:
1. SEE PLANS FOR ARBOR LOCATION.
2. SHELTER TO BE ICON SHELTERS, STRAIGHT ARBOR WITH STEEL SLATS.
3. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

POWDER COAT COLOR: PEDESTAL GRAY

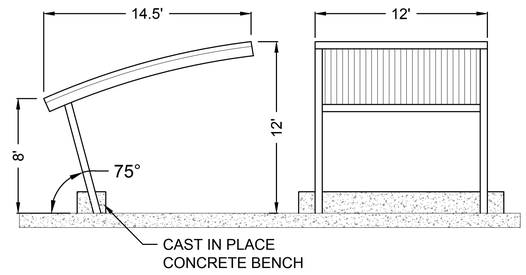


1 METAL ARBOR

1"=5'

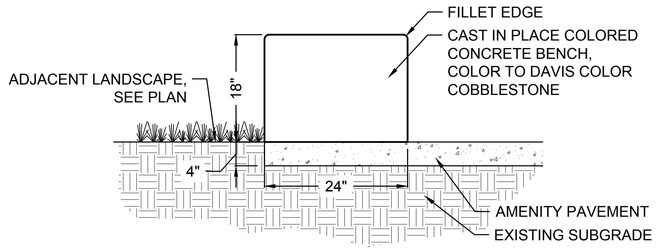
NOTES:
1. SEE PLANS FOR SHELTER LOCATION.
2. SHELTER TO BE ICON SHELTERS, CANTILEVER DESIGN.
3. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

POWDER COAT COLOR: ASH GRAY
ROOF COLOR: CHARCOAL

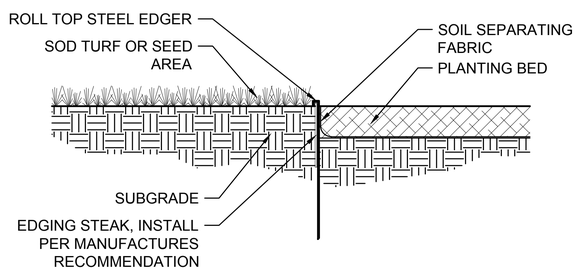


2 CANTILEVER SHELTER

1"=5'

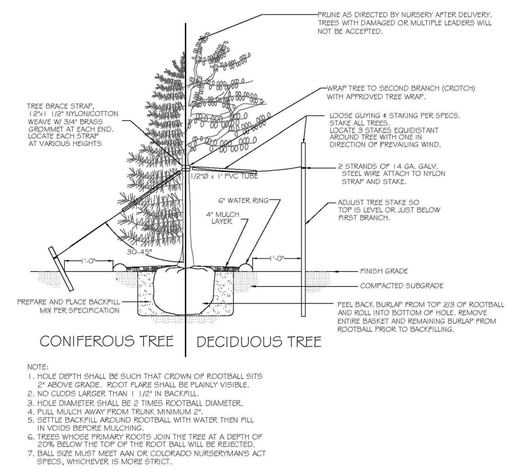


3 CAST IN PLACE CONCRETE BENCH



4 STEEL EDGING

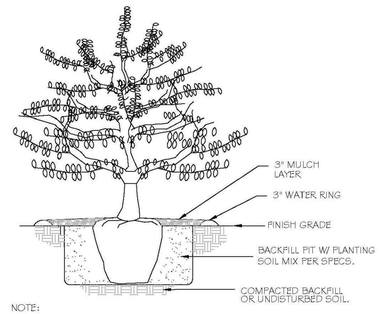
NOT TO SCALE



NOTE:
1. HOLE DEPTH SHALL BE SUCH THAT CROWN OF ROOTBALL SITS 2" ABOVE GRADE. ROOT FLARE SHALL BE PLAINLY VISIBLE.
2. NO CLODS LARGER THAN 1 1/2" IN BACKFILL.
3. HOLE DIAMETER SHALL BE 2 TIMES ROOTBALL DIAMETER.
4. PULL MULCH AWAY FROM TRUNK MINIMUM 2".
5. SETTLE BACKFILL AROUND ROOTBALL WITH WATER THEN FILL IN VOIDS BEFORE MULCHING.
6. TREES WHOSE PRIMARY ROOTS JOIN THE TREE AT A DEPTH OF 20% BELOW THE TOP OF THE ROOT BALL WILL BE REJECTED.
7. BALL SIZE MUST MEET AAN OR COLORADO NURSERYMAN'S ACT SPECS, WHICHEVER IS MORE STRICT.

5 TREE PLANTING DETAIL

N.T.S.



NOTE:
1. HOLE DEPTH SHALL BE SUCH THAT CROWN OF ROOTBALL SITS 2" ABOVE GRADE. ROOT FLARE SHALL BE PLAINLY VISIBLE.
2. NO CLODS LARGER THAN 1 1/2" IN BACKFILL.
3. HOLE DIAMETER SHALL BE 2 TIMES ROOTBALL DIAMETER.
4. PULL MULCH AWAY FROM TRUNK MINIMUM 2".
5. SETTLE BACKFILL AROUND ROOTBALL WITH WATER THEN FILL IN VOIDS BEFORE MULCHING.

6 SHRUB PLANTING DETAIL

N.T.S.

FOR INFORMATION ONLY

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EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 6 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO.

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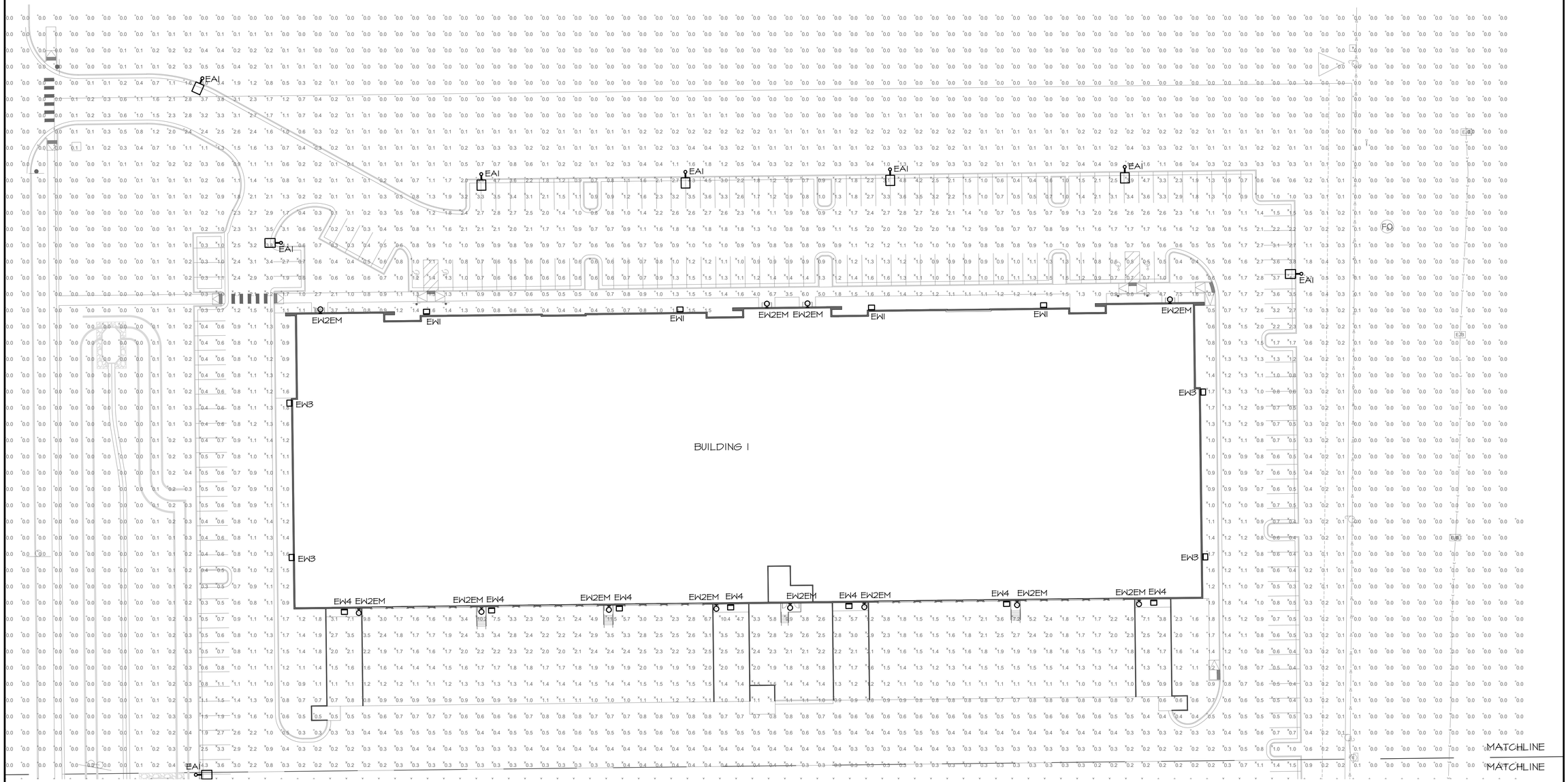
AE DESIGN
Integrated Lighting and Electrical Solutions
1900 Wazee Street #205 | Denver, CO 80202 | 303.296.3034
aedesign-inc.com
Project #:4637.00

FIRST SDP SUBMITTAL 09/06/2019
SECOND SDP SUBMITTAL 10/28/2019

GENERAL NOTES	
A.	ALL SITE LIGHTING SHALL BE CONTROLLED VIA PHOTOCELL TIMECLOCK.
B.	ALL SITE LIGHTING SHALL BE FULL-CUTOFF USING ENERGY EFFICIENT LED SOURCES.
C.	ILLUMINANCE VALUES SHOWN ARE AT GRADE AND SHOULD BE CONSIDERED INITIAL USING A LIGHT LOSS FACTOR OF 1.0.
D.	ILLUMINANCE VALUES SHOWN HERE REPRESENT LIGHTING FROM LUMINAIRES SHOWN EXPLICITLY ON THIS DRAWING.
E.	ILLUMINANCE VALUES MEASURED 20 FEET BEYOND THE PROPERTY LINE SHALL NOT EXCEED 0.1 FOOT-CANDLES.
F.	ALL LIGHT POLES HAVE A MAXIMUM HEIGHT OF 20'-0" ABOVE GRADE.



1 BUILDING 1 SITE PHOTOMETRIC PLAN
SCALE: 1" = 30'-0"

PHOTOMETRIC PLAN
SHEET 15 OF 22

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 6 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO.

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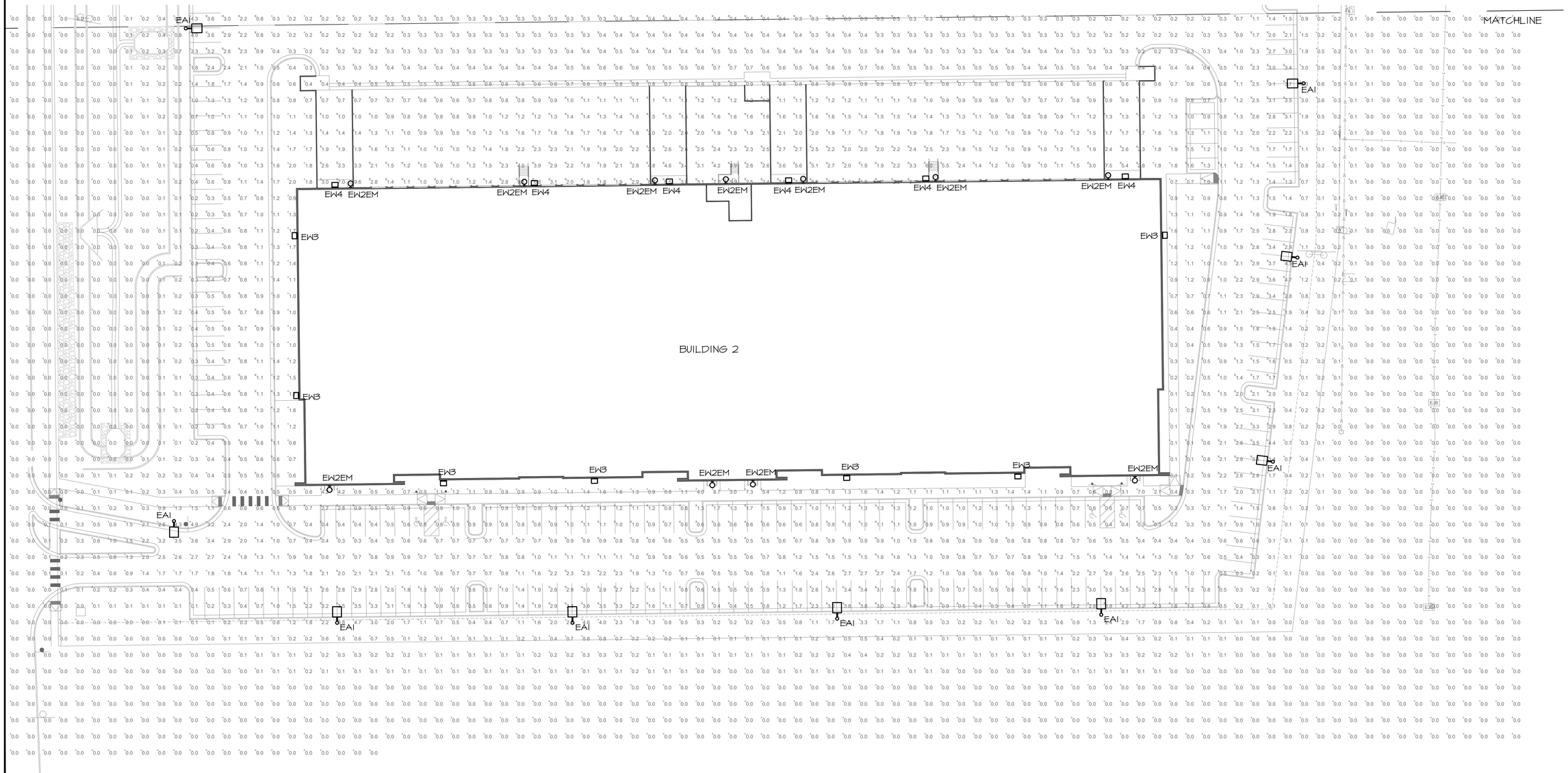
F.	ALL LIGHT POLES HAVE A MAXIMUM HEIGHT OF 20'-0" ABOVE GRADE.



1 BUILDING 2 SITE PHOTOMETRIC PLAN
SCALE: 1" = 30'-0"

PC ATTACHMENT D

EAST LOVELAND INDUSTRIAL TWENTY-THIRD SUBDIVISION
CONDITIONAL USE SITE DEVELOPMENT PLAN

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 6 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, CITY OF LOVELAND, COUNTY OF LARIMER, STATE OF COLORADO.

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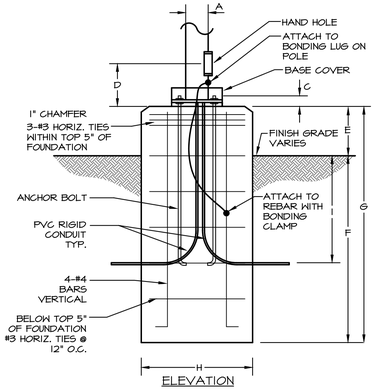
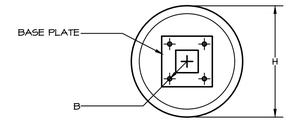


ELEVATION



TOP VIEW

POLE KEY	OVERALL HEIGHT	A	ANCHOR BOLT DATA B	SIZE	C	D	E	F	G	H	I
EA1	20'0"	4"	PER MANUFACTURER			2'0"*	7'0"	9'0"	24"	36"	

* FOR ALL POLES IN LANDSCAPE AREAS, TOP OF CONCRETE BASE TO BE ONLY 0'6" ABOVE THE FINISHED GRADE.

4 | POLE BASE DETAIL
SCALE: N.T.S.

POINT ILLUMINANCE SUMMARY:

AREA	AVERAGE (fc)	MAX (fc)	MIN (fc)	MAX/MIN	AVG/MIN
OVERALL SITE	--	10.0	0.0	--	--
BUILDING 01 NORTH PARKING LOT	1.0	4.8	0.3	16.0:1	4.8:1
BUILDING 01 EAST PARKING LOT	1.0	4.1	0.3	15.7:1	4.7:1
BUILDING 01 WEST PARKING LOT	1.0	3.8	0.3	12.7:1	3.8:1
BUILDING 02 SOUTH PARKING LOT	1.0	4.2	0.3	14.0:1	4.2:1
BUILDING 02 EAST PARKING LOT	1.0	4.7	0.3	15.7:1	4.7:1
BUILDING 02 WEST PARKING LOT	0.9	3.6	0.3	12.0:1	3.6:1

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTAGE	FIXTURE QTY	LAMP QTY	LAMP WATT	LAMP TYPE	LUMEN OUTPUT	DIMMING UTILIZED	MAX WATTS	MOUNTING LOCATION	INFORMATION BOF/RFD/OFH	NOTES
EA1	POLE MOUNTED AREA FIXTURE, LED TYPE 3 MEDIUM DISTRIBUTION WITH HOUSE SIDE SHIELD; P4 OPTICS,	LITHONIA	DSXI LED P4 30K T3M MVOLT SPA H5	120-277	13	1	125	LED 3000K	13457	--	125	POLE GROUND	20'-0" POLE HEIGHT	1
EW1	EXTERIOR LED WALLPACK, TYPE 2 DISTRIBUTION, 1000mA	LITHONIA	DSXWI LED 20C 1000 30K T2M MVOLT	120/277	4	1	74	LED 3000K	7204	--	74	SURFACE WALL	25'-0" BOF	1
EW2EM	EXTERIOR LED WALLPACK, WIDE THROW WITH EM, BATTERY PACK, BLACK FINISH	LITHONIA	WST LED P1 30K VF MVOLT E20WC	120/277	22	1	12	LED 3000K	3512	--	12	SURFACE WALL	10'-0" BOF	1
EW3	EXTERIOR LED WALLPACK, TYPE 3 DISTRIBUTION, 1000mA	LITHONIA	DSXWI LED 20C 1000 30K T3M MVOLT	120/277	12	1	74	LED 3000K	7052	--	74	SURFACE WALL	25'-0" BOF	1
EW4	EXTERIOR LED WALLPACK, TYPE 4 DISTRIBUTION, P4 OPTICS	LITHONIA	DSXI LED P4 30K T4M MVOLT	120/277	12	1	125	LED 3000K	13165	--	125	SURFACE WALL	25'-0" BOF	1

ABBREVIATIONS: BOF - BOTTOM OF FIXTURE, RFD - RECESSED FIXTURE DEPTH, OFH - OVERALL FIXTURE HEIGHT, AFF(AFG) - ABOVE FINISHED FLOOR (GRADE), WFD - WALL FIXTURE DEPTH

GENERAL NOTES:
A. ALL LED LAMPS TO BE4000K COLOR TEMPERATURE AND A MINIMUM OF 82CRI, UNLESS NOTED OTHERWISE.
B. PROVIDE LUMINAIRES SHOWN AS SHADED WITH EMERGENCY BATTERY BALLASTS, UNLESS OTHERWISE NOTED. EMERGENCY LUMINAIRES SHALL SENSE UN-SWITCHED POWER TO THE SPACE AND OPERATE AUTOMATICALLY UPON LOSS OF NORMAL POWER. ALL SHADED LUMINAIRES WITH 2FT AND 4FT LAMPS SHALL HAVE ONE (1) 90 MINUTE RATED, TWO LAMP, 1400 LUMEN EMERGENCY BALLAST. ALL SHADED LUMINAIRES WITH COMPACT FLUORESCENT LAMPS SHALL HAVE A FACTORY INSTALLED 90 MINUTE EMERGENCY BALLAST. ALL EMERGENCY LUMINAIRES SHALL HAVE REMOTE TEST SWITCHES AND VISIBLE INDICATING LIGHTS. CONNECT THE EMERGENCY BATTERY BALLAST TO THE UN-SWITCHED LEG OF THE LIGHTING CIRCUIT INDICATED.

SPECIFIC NOTES:
1. ARCHITECT TO CONFIRM FINISH TYPE AND POLE SHAPE.

WST LED
Architectural Wall Sconce

Catalog Number | Notes | Type

Hit the Tab key or mouse over the page to see all interactive elements.

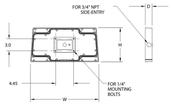
Specifications

Luminaire

Height: 8-1/2" (21.59 cm)
Width: 17" (43.18 cm)
Depth: 10-3/16" (25.9 cm)
Weight: 20 lbs (9.1 kg)

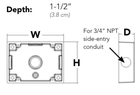
Optional Back Box (PBBW)

Height: 8.49" (21.56 cm)
Width: 17.01" (43.21 cm)
Depth: 1.70" (4.32 cm)



Optional Back Box (BBW)

Height: 4" (10.2 cm)
Width: 5-1/2" (14.0 cm)
Depth: 1-1/2" (3.8 cm)



Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background[1]

To learn more about A+, visit www.acuitybrands.com/aplus.

See ordering tree for details.

A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

3 | TYPE EW2EM
SCALE: N.T.S.

d^series

D-Series Size 1
LED Wall Luminaire

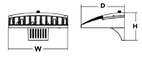
Catalog Number | Notes | Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

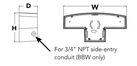
Luminaire

Width: 13-3/4" (34.9 cm)
Weight: 12 lbs (5.4 kg)
Depth: 10" (25.4 cm)
Height: 6-3/8" (16.2 cm)



Back Box (BBW, ELCW)

Width: 13-3/4" (34.9 cm)
BBW Weight: 5 lbs (2.3 kg)
Depth: 4" (10.2 cm)
ELCW Weight: 10 lbs (4.5 kg)
Height: 6-3/8" (16.2 cm)



Ordering Information

EXAMPLE: DSXW1 LED 20C 1000 40K T3M MVOLT DDBTXD

DSXW1 LED

Series	LEDs	Drive Current	Color temperature	Distribution	Voltage	Mounting	Control Options
DSXW1 LED	10C 10 LEDs (one engine) 20C 20 LEDs (two engines) [7]	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A) [1]	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted	T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium ASYDF Asymmetric diffuse	MVOLT [2] 120 [3] 208 [3] 240 [3] 277 [3] 347 [3,4] 480 [3,4]	**Shipped included** (blank) Surface mounting bracket BBW Surface-mounted back box (for conduit entry) [5]	**Shipped installed** PE Photoelectric cell, button type [6] DMG 0-10V dimming driver (no controls; wires pulled outside fixture) PIR 180° motion/ambient light sensor, <15' mtg ht [8,9] PIRH 180° motion/ambient light sensor, 15-30' mtg ht [8,9] PIR1FC3V Motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc [8,9] PIRH1FC3V Motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc [8,9] ELCW Emergency battery backup (includes external component enclosure), non CEC compliant [8,9]

Other Options		Finish (required)			
Shipped installed	**Shipped separately** [9]	DDBXD Dark bronze	DSSXD Sandstone	DWHGXD Textured white	
SF Single fuse (120, 277 or 347V) [3,9]	BSW Bird-deterrent spikes	DBLXD Black	DDBTXD Textured dark bronze	DSSTXD Textured sandstone	
DF Double fuse (208, 240 or 480V) [3,9]	WG Wire guard	DNAXD Natural aluminum	DBLBXD Textured black		
HS House-side shield [9]	VG Vandal guard	DWHXD White	DNATXD Textured natural aluminum		
SPD Separate surge protection	DDL Diffused drop lens				

Accessories
Ordered and shipped separately.

DSXWHS U House-side shield (one per light engine)
DSXWBSW U Bird-deterrent spikes
DSXWTWG U Wire guard accessory
DSXWTVG U Vandal guard accessory

NOTES
1 20C 1000 is not available with PIR, PIRH, PIR1FC3V or PIRH1FC3V.
2 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
3 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
4 Only available with 20C, 700mA or 1000mA. Not available with PIR or PIRH.
5 Back box ships installed on fixture. Cannot be field installed. Cannot be ordered as an accessory.
6 Photocontrol (PE) requires 120, 208, 240, 277 or 347 voltage option. Not available with motion/ambient light sensors (PIR or PIRH).
7 Reference Motion Sensor table on page 3.
8 Cold weather (-20C) rated. Not compatible with conduit entry applications. Not available with BBW mounting option. Not available with fusing. Not available with 347 or 480 voltage options. Emergency components located in back box housing. Emergency mode IES files located on product page at www.lithonia.com
9 Not available with ELCW.
10 Also available as a separate accessory; see Accessories information.

2 | TYPE EW1, EW3, EW4
SCALE: N.T.S.

d^series

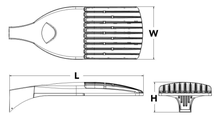
D-Series Size 1
LED Area Luminaire

Catalog Number | Notes | Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 1.01 ft² (0.09 m²)
Length: 33" (83.8 cm)
Width: 13" (33.0 cm)
Height: 7-1/2" (19.1 cm)
Weight (max): 27 lbs (12.2 kg)



Introduction

The D-Series Wall luminaire is a stylish, fully integrated LED solution for building-mount applications. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

With an expected service life of over 20 years of nighttime use and up to 74% in energy savings over comparable 250W metal halide luminaires, the D-Series Wall is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background[1]

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA DDBXD

DSX1LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4 P7 P2 P5 P8 P3 P6 P9 **Rotated optics** P10 [1] P12 [1] P11 [1] P13 [1]	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted [2]	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control [27] LCCO Left corner cutoff [27] RCCO Right corner cutoff [27]	MVOLT [4,5] 120 [6] 208 [5,6] 240 [5,6] 277 [6] 347 [5,6,7] 480 [5,6,7]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor [8] RPUMBA Round pole universal mounting adaptor [8] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) [8]

Control options			Other options	Finish (required)	
Shipped installed	PIRH1FC3V Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc [9,10,11]		**Shipped installed**	DDBXD Dark bronze	
NLTAIR2 nLight AIR generation 2 enabled [12]	BL30 Bi-level switched dimming, 30% [5,9,10]		HS House-side shield [13]	DBLXD Black	
PER NEMA twist-lock receptacle only (controls ordered separate) [14]	BL50 Bi-level switched dimming, 50% [5,9,10]		SF Single fuse (120, 277, 347V) [6]	DNAXD Natural aluminum	
PERS Five-wire receptacle only (controls ordered separate) [14,15]	PNMTD3 Part night, dim till dawn [5,9]		DF Double fuse (208, 240, 480V) [6]	DWHXD White	
PER7 Seven-wire receptacle only (controls ordered separate) [14,15]	PNMTSD3 Part night, dim 5 hrs [5,9]		L90 Left rotated optics [1]	DDBTXD Textured dark bronze	
DMG 0-10V dimming extend out back of housing for external control (leads exit fixture)	PNMTFD3 Part night, dim 6 hrs [5,9]		R90 Right rotated optics [1]	DBLBXD Textured black	
DS Dual switching [11,16]	PNMT5D3 Part night, dim 7 hrs [5,9]		**Shipped separately**	DNATXD Textured natural aluminum	
PIR Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc [9,10,11]	FAO Field adjustable output [9]		BS Bird spikes [27]	DWHGXD Textured white	
PIRH Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc [9,10,11]			EGS External glare shield [27]		
PIRHN Network, Bi-Level motion/ambient sensor [9]					

1 | TYPE EA1
SCALE: N.T.S.

PHOTOMETRIC PLAN
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PC ATTACHMENT D