

Appendix A. Public Involvement

Alternative Modes / Parking

- Bike lanes are not useful for kids and families
- County Line/Erie Parkway intersection has very short crossing time due to signal timing
- Debris, gravel, etc. in bike lanes causes safety issues
- Limited use of existing bicycle lanes
- Erie Parkway and Powers is not very safe for pedestrians due to short crossing time
- Consideration for mobility hub at SH 7 and I-25 – how does this integrate with plans for Erie?
- New BVSD school opening in 2017 (K-8), consideration for buses and turning radii on roadways, increased peak hour school traffic, pedestrian access across Erie Parkway
- Parking is an issue at the library/recreation center but they are very important destinations
- Parking in Old Town is challenging

Economic Development

- Concern about possibility of increased impact fees on developers
- Change is hard - but with population expected to double, it is needed
- Developers and residents can't carry all the costs of roadway/streetscape improvements
- Developers are obligated to improve the Parkway and County roads to current cross section standards over the course of project development – how does this study affect existing and near-term roadway/streetscape construction?
- Cost of improvements could limit future growth and attraction of new development
- Drive thru restaurants not allowed except through variances

Stakeholder Identified Opportunities

Corridor Cohesion

- Erie Parkway creates an opportunity to make a major statement about “Who Erie Is”
- Corridor segments should complement each other, but not be the same
- Maintain small town feel
- Create a community identity / brand
- Maintain family oriented, small community feel
- Identity should reflect open space, views, and beauty – outdoor, Colorado culture
- Maintain unique identifies along various parts of the corridor while maintaining a cohesive feel (rural, modern residential, old town, commercial)
- Change name of Isabelle to Erie Parkway at the western end of the corridor to 287
- Wayfinding signage (especially to Old Town via Briggs, and major activity centers)
- New historical signage coming to trail system – coordinate signage
- Monument signage at key locations (287/Isabelle, I-25/Erie Parkway, Erie Parkway/Briggs)

Streetscape

- Tree lawn to help slow traffic and provide shade for pedestrians
- Better to have a safe, kid-friendly street rather than high speed
- Landscaped median
- Deep setbacks to development from roadway
- Consistent landscaping throughout corridor
- Lighting throughout the corridor for aesthetics and safety
- Some difference in landscaping of medians to keep the corridor interesting
- Consider alternative median options depending on section of roadway and identified character
- Medians along corridor important for safety and for aesthetics – could be moderate landscaping with xeriscape or even a concrete treatment
- Possibility of a future Arts Commission – could be a good opportunity for the Parkway brand

Roadway

- Going to be major urban corridor when development complete it 40 years – goal should be moving traffic through the corridor efficiently
- Would like to see a roundabout at CR 7 and Erie Parkway
- Speed limits are too low – semi-urban areas okay at 35 MPH, but when you get to Colliers Hill (east) should be 45 MPH and possibly 55 MPH from CR-5 to I-25
- Prefer narrow travel lanes to accommodate alternative modes and accel/decel lanes
- Create four through lanes throughout entire corridor and maximize use of accel/decel lanes
- May need six lanes from Grandview to I-25 depending on development
- Prefer roundabouts
- Signals have the ability to coordinate as they have the needed fiber
- Four lanes along the whole length of the corridor with eight-foot multiuse path on each side (not bike lanes)
- Opportunity to improve traffic flow on County Line Road and Erie Parkway (major community arteries)
- Expand CR 5 to I-25 to four lanes
- Improvements at intersections needed to increase safety (more roundabouts and/or stop lights)
- Utilize Cheesman as an alternate east/west route from downtown to the high school (for all modes)
- Increase safety features with new bridge at curve
- Soften curve without taking away open space
- Add left turn lanes at Erie Parkway and Isabelle
- Improve existing signal timing
- Add left turn lane onto Briggs from commercial area (bad sight distances)
- Additional signals for traffic calming
- Improve Four Corners intersection with additional turn lanes
- Additional access to Old Town besides Briggs
- Consider six lanes west of County Line
- Traffic calming to maintain small town feel

Alternative Modes/Connectivity

- Bicycle/pedestrian treatments to enhance safety would be helpful (distracted driving/walking is becoming more and more of a problem)
- Bicyclists must be separated from traffic (especially if speed limits increase) – detached multi-use path, buffered bike lane, separated bike lane, etc.
- Create a comfortable, safe, pedestrian environment
- Bike lanes to get to rec center, library, downtown, ball fields; bike lanes need to accommodate a kid pull behind
- Eight to ten foot sidewalks / multiuse paths along Erie Parkway
- Median to serve as a pedestrian refuge at large intersections
- Need good bike and pedestrian access to Old Town
- Connect people safely using existing trails and paths; underpass at the creek provides a safe crossing
- Accommodate all types of users (families, kids, recreation, commuting)
- Good trail system – maximize the use of this amenity
- Focus on off-street bicycle facilities rather than on-street
- More robust bike lanes that intersect with the trail system to improve connectivity (would encourage more use)
- Good sidewalks through the community
- Create comfortable bicycling environment for families
- Create good bicycle and pedestrian connectivity between Four Corners and Old Town
- Safe pedestrian crossings at all major intersections along the Parkway
- Opportunity for transit at Erie Parkway and County Line
- Create physical protection for bicyclists along the corridor to improve comfort and safety
- Consider something like the US 36 Bikeway for Erie Parkway
- Trail underpasses (like Coal Creek) would be ideal if no budget restraints

Economic Development

- Infrastructure and roads can drive economic development
- Opportunity to build stores that back up to the road in an attractive manner
- Creation of a Commercial Owners Association (discussed in the past, never implemented)
- Commercial/light industrial at I-25 and Erie Parkway
- More commercial development desired
- Create a reason for people to “stop and stay” (restaurants, shopping, etc.)
- Development of Four Corners area
- More restaurants and quick lunch locations
- More local businesses needed as residents would like to keep their tax dollars in Erie

Public Relations and Community Outreach

Project Website

The project brand was “Envision Erie Parkway” and the URL selected for the project website was www.envisionerieparkway.com. The project website served as a portal to all project related information, including:

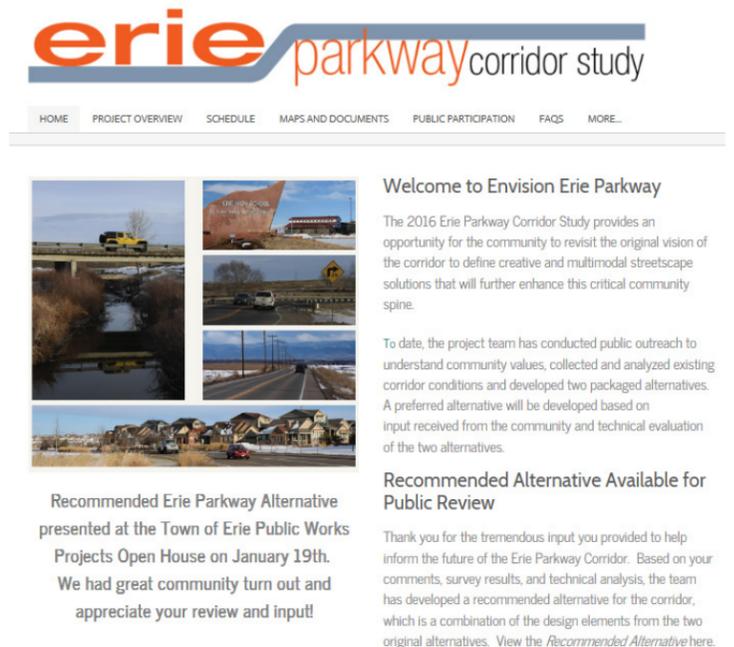
- Project overview
- Project schedule
- Maps and documents
- Public participation materials and event information
- FAQs
- Contact information
- Comment submission form

Project Business Cards

The project team created unique project business cards to hand out at the Town Fair and other public meetings. The card provided contact information and the project website.

Press Releases

A press release was drafted and released by Erie Communications staff to announce the project and to advertise project team attendance at the Town Fair on May 16, 2017 as well as the public meeting on October 18, 2016. Additionally, information was included in Town emails and newsletters for community distribution.



Press Releases

FOR IMMEDIATE RELEASE:
May 3, 2016

FOR MORE INFORMATION:
Wendi Palmer, Town of Erie
Phone: 303-926-2875
Email: wpalmer@erieco.gov

MEDIA CONTACT:
Katie Jenkins, Town of Erie
Phone: 303-926-2763
Email: kjenkins@erieco.gov

Erie Parkway Corridor Study Kicks off

Project Team Seeks Public Input to Inform Corridor Vision

Erie, CO – The Town of Erie recently kicked off the Erie Parkway Corridor Study to create a vision, develop multi-modal streetscape solution alternatives and select a preferred alternative for this key transportation corridor which spans from I-25 on the east to U.S. Highway 287 on the west.

The Erie Parkway Corridor Study is being led by the Town of Erie with support from our consultants at Felsburg Holt & Ullevig. The Study kicked off in March of this year and is scheduled for completion by February 2017. During this time, the team will inventory and analyze existing corridor conditions; solicit input from the public; develop corridor alternatives; identify a vision and recommend a preferred alternative for the Board of Trustees' consideration and determination.

Early in the study process, the project team will be reaching out to the community to solicit public input. Our first major public event will be participation in the Erie Town Fair on Saturday, May 21st. The project team will be in the Town of Erie booth from 10 am – 2 pm to collect input from the public. A project website has been established that includes updates, community survey, maps and documents for public review. Visit us at www.EnvisionErieParkway.com to stay involved and tell us what you think!

Whether you visit us at the Town Fair or engage us online, we hope that you will participate in this process so that your opinions and ideas can help inform the future of this key corridor within our community.

For more information about the Erie Parkway Corridor Study, please contact the Town's Project Manager, Wendi Palmer, at wpalmer@erieco.gov or 303-926-2875.

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FOR IMMEDIATE RELEASE:
September 26, 2016

FOR MORE INFORMATION:
Wendi Palmer, Town of Erie
Phone: 303-926-2875
Email: wpalmer@erieco.gov

MEDIA CONTACT:
Katie Jenkins, Town of Erie
Phone: 303-926-2763
Email: kjenkins@erieco.gov

Community Input Needed to Inform the Future of Erie's Multimodal Transportation System

Town of Erie hosting Open House October 18 for two important projects – Erie Parkway Corridor Study and Erie Transportation Master Plan

Erie, CO – The Town of Erie will host an Open House on October 18th to garner public input about the future of Erie Parkway and Town's overall transportation network. The meeting will be held at the Erie Recreation Center from 4:30 – 6:30 pm and information will be available about two specific projects underway - the Erie Parkway Corridor Study and the Erie Transportation Master Plan. Holding the public meetings for these two projects together will ensure consistency of vision and ensure that the future transportation network is developed in a coordinated manner.

The Erie Parkway Corridor Study kicked off in March of this year and is scheduled for completion in February 2017. To date, the project team has inventoried and analyzed existing corridor conditions; identified the need for corridor improvements; solicited input from the public about corridor priorities; and developed two preliminary corridor alternatives for public review. The alternatives will be available at the Open House on October 18th, providing an opportunity for the community to review the preliminary concepts and offer comments about what you like and dislike. After public input is compiled, the team will refine the alternatives into one preferred corridor alternative, which will be presented to Erie's Board of Trustees' for consideration. To learn more about the Erie Parkway Corridor Study, to review the two corridor alternatives and to provide input, visit www.EnvisionErieParkway.com.

The Town of Erie also just recently started the process to update its Transportation Master Plan (TMP). The Town's TMP was last updated in 2008, and with the significant amount of growth and change that has occurred throughout Town, it is time to rethink the community's transportation network and ensure that it accommodates current and future needs. The Open House on October 18th creates an opportunity for the public to think about the vision for the larger transportation network. Information about Erie's existing transportation network (roadways, trails, bicycle facilities, and transit) will be available for review. The public will also be encouraged to identify issues and concerns and to provide input about opportunities for Erie's transportation network.

Whether you visit us at the public meeting or engage us online, we hope that you will participate so that your opinions and ideas help inform the future of Erie's transportation system.

For more information about the Erie Parkway Corridor Study or the Erie Transportation Master Plan, please contact Wendi Palmer at wpalmer@erieco.gov or 303-926-2875.

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Participation in Erie Town Fair – May 21, 2016

Event Overview

The project team attended the Town of Erie’s Fair and Balloon Festival on May 21, 2016 from 10 am to 2 pm. The goal of the event was to “go to the people” and have community members learn about the project and inform the future of Erie Parkway. The team also had a prize wheel to attract community members to the project tent and to engage the children in the community. The team had a general project board, an interactive board asking about community values, and two boards that asked the community about their current concerns regarding Erie Parkway and their vision for the corridor in the future. The summary of comments heard can be found below.



erie parkway corridor study

envision erie parkway

The Town of Erie kicked off the Erie Parkway Corridor Study in March 2016 with the goal of creating a vision for this key corridor within our community. The study area includes Erie Parkway from I-25 on the east to U.S. Highway 287 on the west.



project goals:

- Inventory and analyze existing corridor conditions.
- Solicit input from the public and understand community values.
- Create a vision for the corridor.
- Develop streetscape and multimodal corridor alternatives.
- Identify a preferred alternative for consideration by the Board of Trustees.
- Craft an implementation plan for the preferred alternative and identify potential funding sources.

Visit us at
www.envisionerieparkway.com
to stay involved and tell us what you think!

 TOWN OF ERIE

Erie Parkway Corridor Study 15-227 09/18/2014

corridor vision development considerations:

<ul style="list-style-type: none"> Existing and future traffic volumes Bicycle/pedestrian access and infrastructure Transit services Safety 	<ul style="list-style-type: none"> Aesthetics Community character and identity Existing and future land uses Economic development
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project schedule

Task	2016	2017										
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2017	
PHASE 1	Project Kick-off											
	Initial Data Collection											
PHASE 2	Corridor Conditions Review & Analysis											
	Economic Development Market Analysis											
	Corridor Districts Development											
	Develop Program and Plan											
PHASE 3	Identify Range of Alternatives											
	Tier 1 Evaluation											
	Package Alternatives											
	Tier 2 Evaluation											
PHASE 4	Develop Recommendation Alternative											
	Conceptual Design and Cost Estimates											
	Implementation Plan											
	Draft and Final Report											

LEGEND:
■ Community Outreach Event ★ Public Meeting ■ Staff Report ■ Public Review & Comment Period ■ Final Report

What is your biggest concern about Erie Parkway Today?

- Get rid of the 25 mph curve
- Increase speed limit
- More restaurant options, not just Burger King
- Yield to Traffic sign in the circle; teach people how to use the roundabout
- No more new residential development
- Remove median between E. County Line and 119th; police can't stop speeders
- Grocery store in mid center of town
- Widen curve to two lanes both ways
- Small grocery store on corner of County Road 1 and Erie Parkway
- I don't drive near 287 because I'm worried about hitting bikes
- Left turn only with arrow Isabelle to 287
- Northbound trash trucks are not mandated to use it! Shouldn't be routed through Vista Ridge



What is your vision for Erie Parkway in 10 years?

- | | |
|---|---|
| <ul style="list-style-type: none"> • More businesses along Erie Parkway • Rails to Trails to Boulder • You need to have a 4-lane highway for all the growth coming our way • RTD bus service at Vista Ridge Erie • Better traffic flow near 287 • Keep it residential with views of mountains • Neighborhood walls/trees for separation from parkway • Better bike lanes • Safer bike access heading west • Wider bike lanes • Increase speed limit to 45 mph • Bike path along creek that connects to Boulder; runs up Valmont | <ul style="list-style-type: none"> • Make Highway 52 wider, not Erie Parkway • Trail system to Denver and Boulder • Extend light rail to Erie • Golf cart paths to and from downtown to Vista Ridge (use on multiuse paths) • Roundabouts slow traffic; limit freight speed flashers • Colorado feel landscaping – make it about more than cars • Roundabout at Summit Parkway • Rail to Denver—ballgames, concerts, and no DUIs! • Replace all signals with roundabouts • Reduce mph to 25 on west side; traffic calming |
|---|---|

Community Values Board Results



Erie Parkway Public Input Summary – October 2016

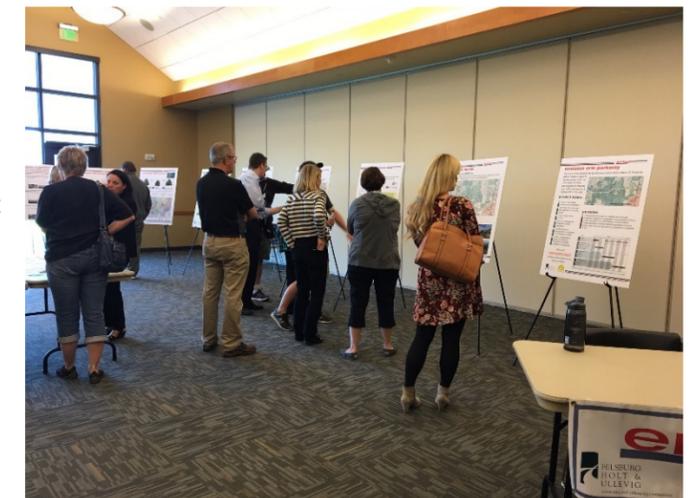
Public Meeting Overview

Overview

The Town of Erie hosted a joint public meeting at the Erie Community Center on October 18, 2016, to obtain input from the public about their preferences on the Erie Parkway alternatives and to provide comments on the larger transportation network for the Erie Transportation Master Plan. Approximately 40 members of the public attended the event.

The meeting provided the following information for review by the public:

- Project overview
- Corridor needs (mobility, safety, bicycle and pedestrian activity, character and identity, transit accessibility, economic vitality)
- Character districts
- Tier 1 alternatives
- Packaged Alternative A
- Packaged Alternative B
- Community preference voting



Online Survey

In mid-October 2016, the project team crafted an online survey as an additional tool to collect public input about the packaged alternatives for Erie Parkway and for the Erie Transportation Master Plan. The survey was posted to the project website and was promoted through the Town’s social media outlets and the public meeting announcement press release. The survey has been open for approximately 8 weeks, and a total of 114 community members have participated. The survey questions were the same as those asked at the public meeting to ensure continuity of findings.



The Town of Erie kicked off the Erie Parkway Corridor Study in March 2016 with the goal of creating a vision for this key corridor within our community. The study area includes Erie Parkway from I-25 on the east to U.S. Highway 287 on the west. You can learn more about the study at www.envisionerieparkway.com.

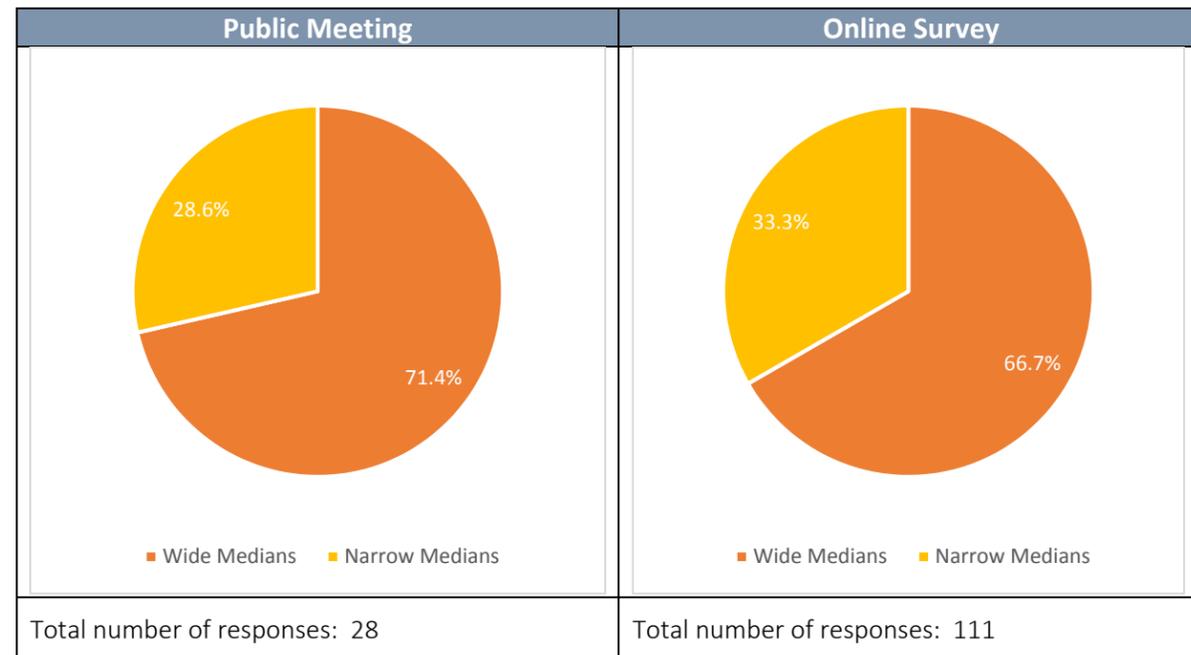
The project team has developed two alternatives for Erie Parkway, and we would like your feedback. A preferred alternative will be developed based on the input received from the community and a technical evaluation of the two alternatives. The preferred alternative may be a combination of elements from Alternative A and Alternative B.

Please help us understand your preferences by telling us which design elements you feel would be best for Erie Parkway.

Community Preference Survey

The following pages illustrate and discuss the findings from the six community preference survey questions presented at the public meeting and online.

1. Do you prefer the wide medians in Alternative A or the narrow medians in Alternative B?

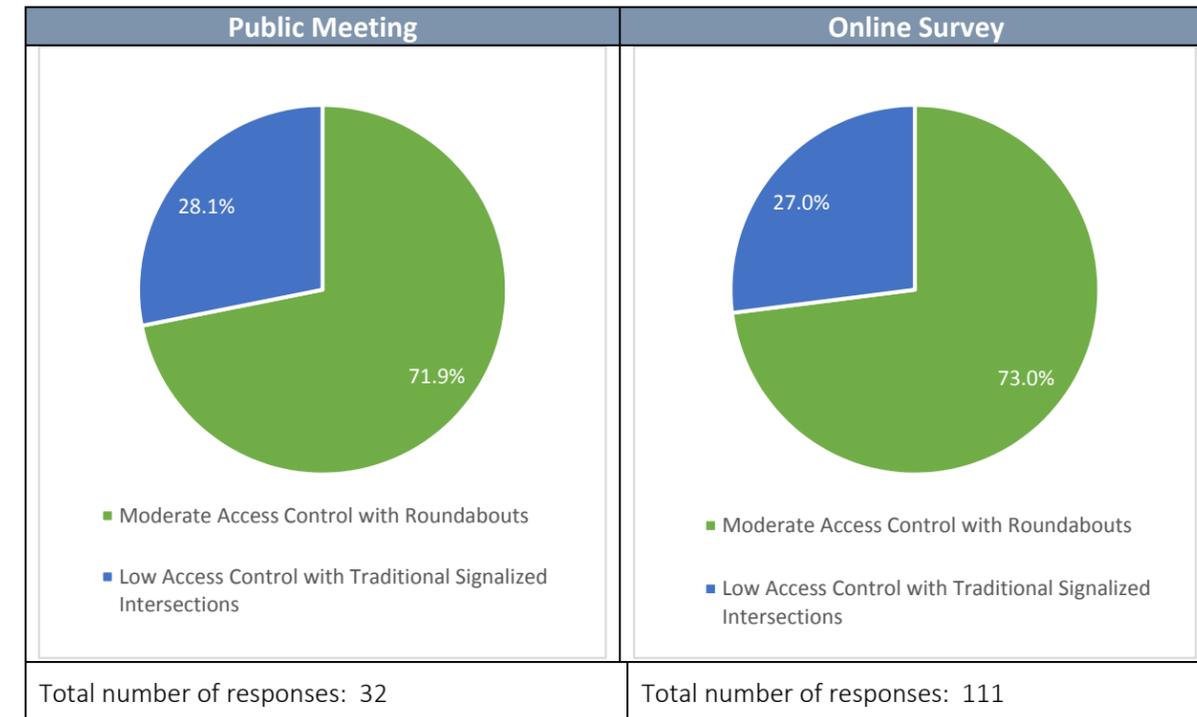


Overall Community Preference for Wide Medians

Question 1 Key Themes

- More efficient use of space
- Better visibility
- Safety and enhanced aesthetic appeal
- Better support for pedestrians and cyclists

2. Do you prefer the moderate access control with roundabouts in Alternative A or the low access control with traditional signalized intersections in Alternative B?

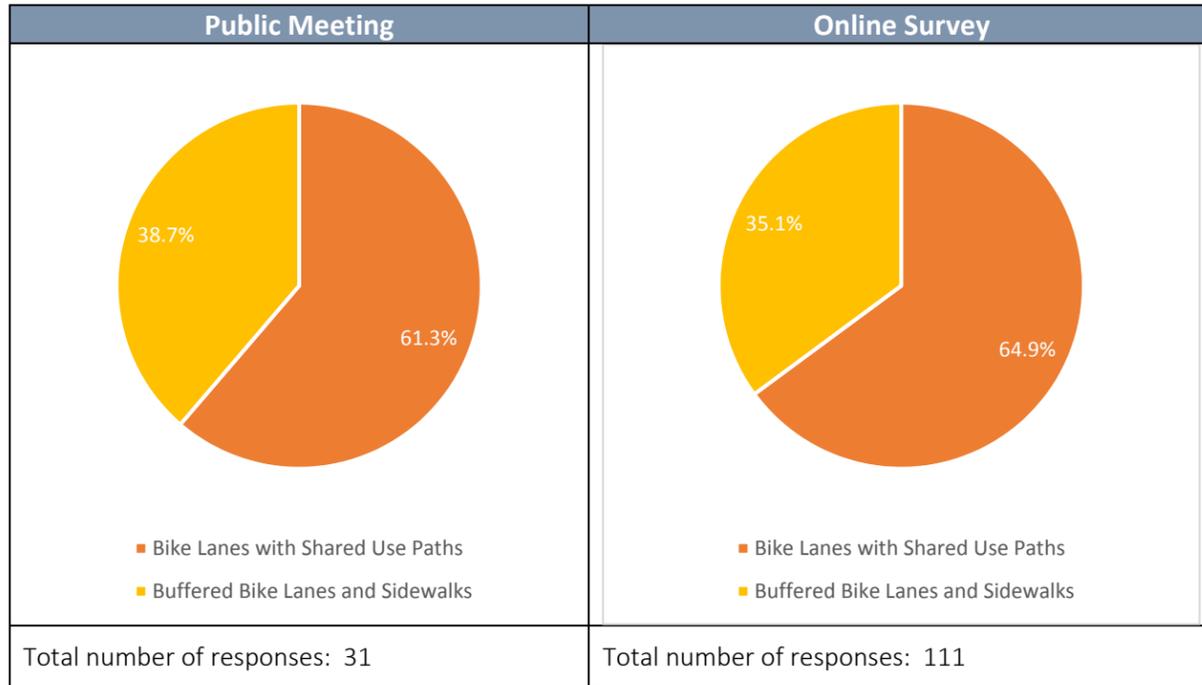


Overall Community Preference for Roundabouts and Moderate Access Control

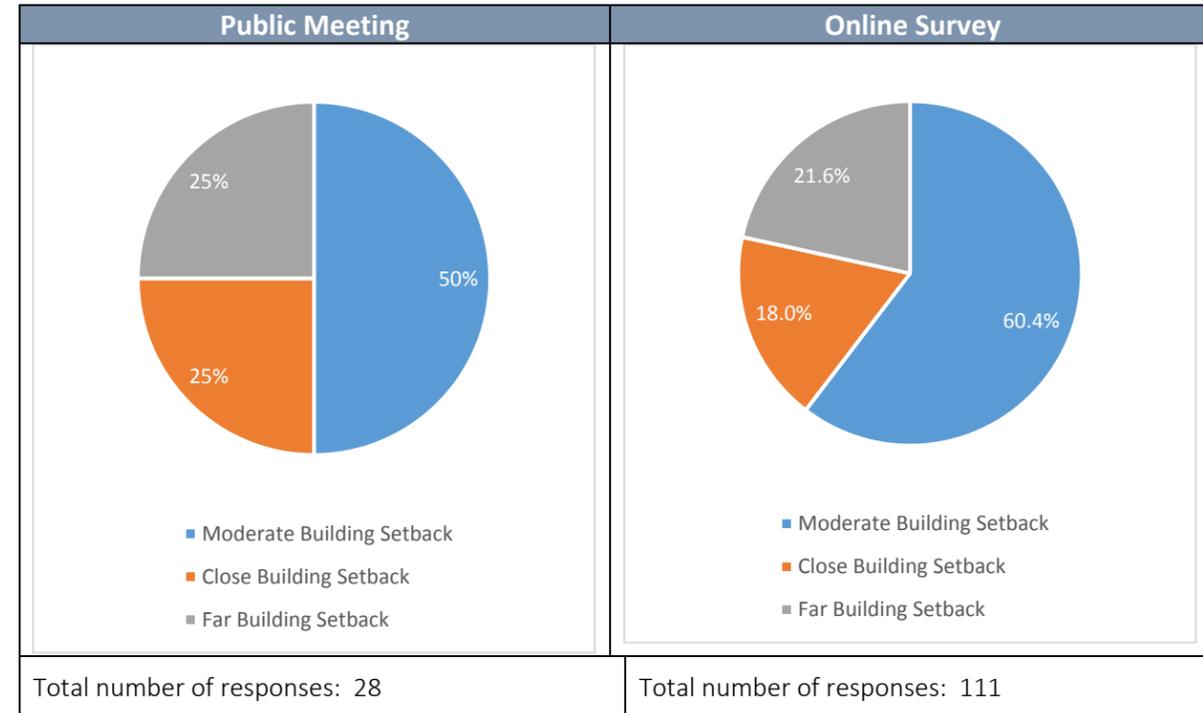
Question 2 Key Themes

- Roundabouts are more efficient and keep traffic flowing better.
- Roundabouts are too dangerous. Drivers need to be educated on how use roundabouts correctly.
- Fewer intersections and traffic signals would be better
- Roundabouts are not suitable for areas where children need to cross to get to school; traffic signals would be better suited in those areas.

3. Do you prefer the bike lanes and shared use paths in Alternative A or the buffered bike lanes and sidewalks in Alternative B?



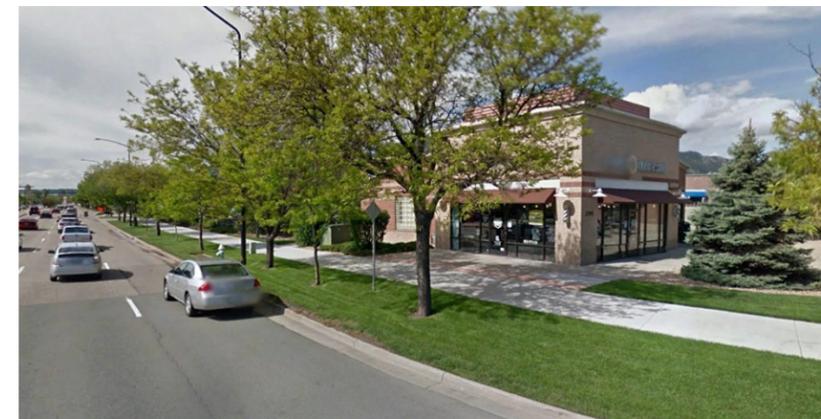
4. What is your preference for building location relative to the street in the commercial and Erie Commons area?



Overall Community Preference for Bike Lanes and Shared-Use Paths

Question 3 Key Themes

- Shared use paths are safer for bicyclists and families with young children.
- Safety of importance to all, including drivers, bicyclists, pedestrians, and young children.
- Buffered bike lanes are confusing, collect debris, are less safe, and are often used as turning lanes.

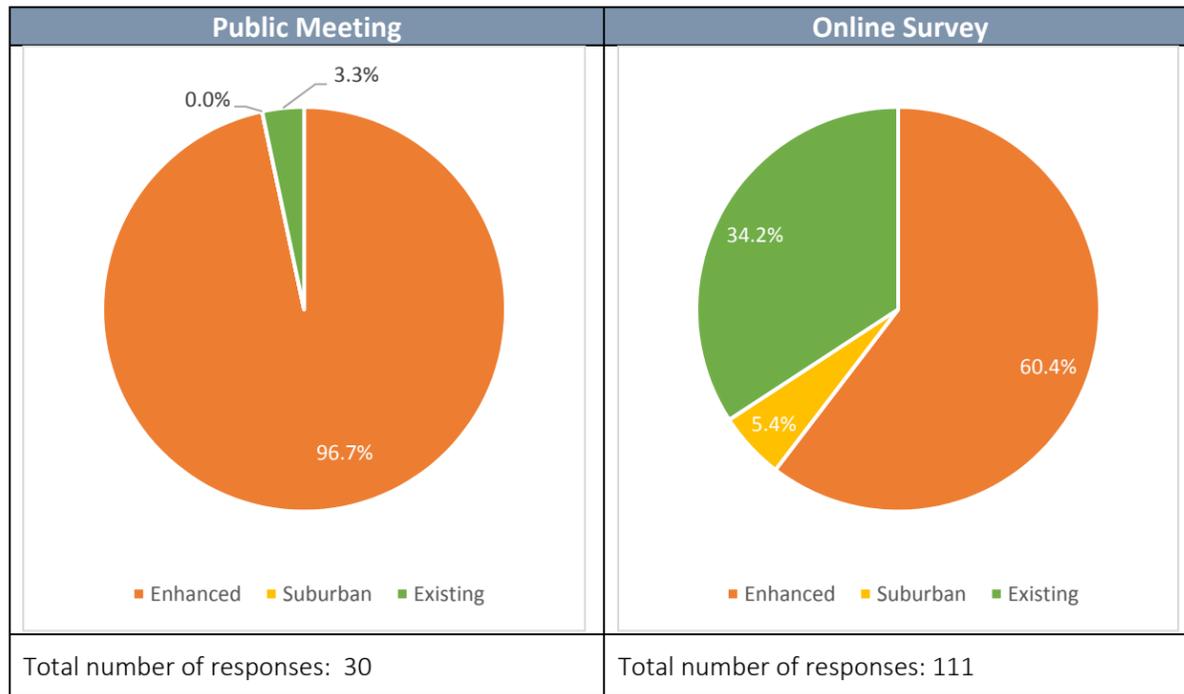


Overall Community Preference for Moderate Building Setback

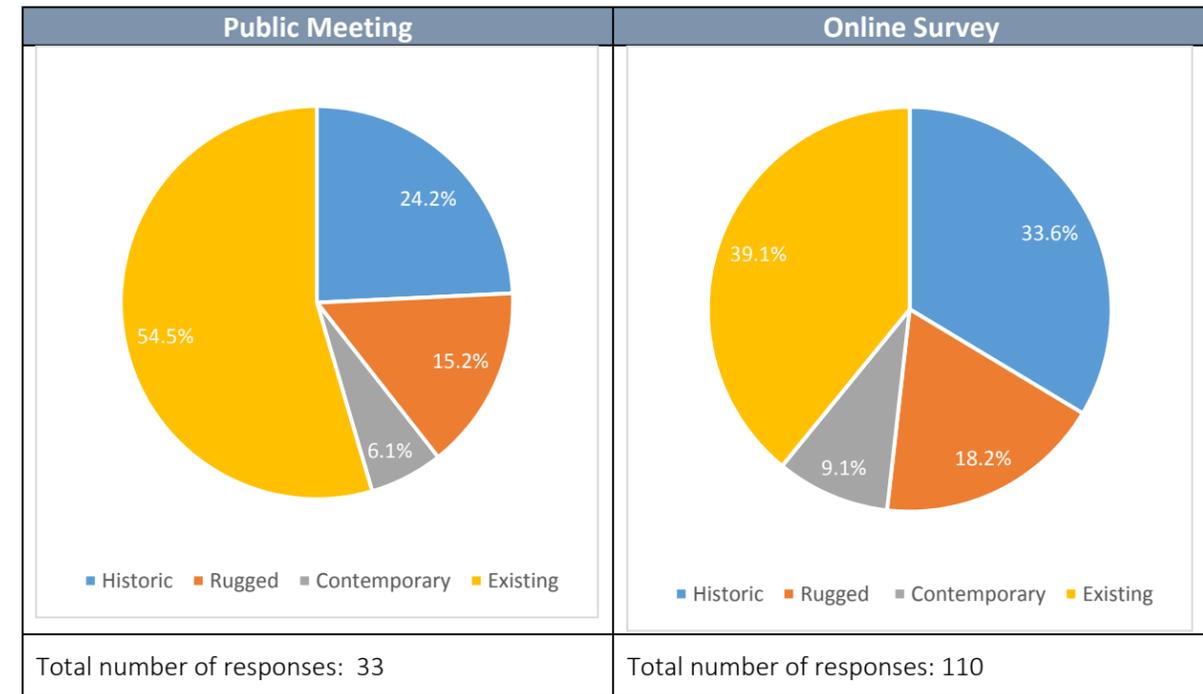
Question 4 Key Themes

- Provide access to shopping, walking, and other activities but also allow space for landscaping.
- Aesthetically pleasing and functional without wasted space.
- Maintain the open feel of the town.
- Provide a balance between landscaping and the ability to see businesses from the road.

5. Which intersection character do you prefer?



6. Which signage character do you prefer?



Overall Community Preference for Enhanced Intersections

Question 5 Key Themes

- Enhanced as long as it does not impede visibility and safety.
- Enhanced is more aesthetically appealing and attractive.



Overall Community Preference for Existing and/or Historic

Question 6 Key Themes

- Tailor signage to the area of town.
- Existing signage looks good and keeps Erie looking like Erie.

Summary of Packaged Alternative Preferences

In summary, the key preferences identified from the public at the meeting on October 18, 2016, and the online survey are consistent. The one difference is in Question 6 regarding signage; the majority of the public meeting attendees prefer existing signage, while the online survey resulted in a split between existing signage and historic.

	Public Meeting	Online Survey
Question 1	Wide medians	Wide medians
Question 2	Moderate access control with roundabouts	Moderate access control with roundabouts
Question 3	Bike lanes with shared use paths	Bike lanes with shared use paths
Question 4	Moderate building setback	Moderate building setback
Question 5	Enhanced intersection character	Enhanced intersection character
Question 6	Existing signage (56%)	Existing signage (39%), historic (33%)

Online Survey Open-Ended Question Comment Themes

- Keep Erie’s sense of charm as a unique “small town.”
- Don’t let road development ruin this town.
- Grateful for the thought, effort, and public input going into the planning and organization of this project.
- Minimize roundabouts and intersections.
- Examine possible alternate routes beyond Erie Parkway.
- Review the posted speed limits for the length of Erie Parkway and traffic signal operations.
- Consider sound buffering/mitigation between roadways and housing.
- Landscaping will be vitally important.
- Poor planning on the part of the Town of Erie. Town does not have the infrastructure to support this development.
- Straighten out Erie Parkway through town and bring it up to three lanes in each direction to better handle egress and ingress traffic. Remove as many lights as possible and cycle and manage them in a way to maximize the flow of the primary arteries.
- Work with Boulder County to provide safer bicycle commuting options (not just recreational) that connect to neighboring communities to the south and west. A safe connection to 95th St is a must.
- At traffic signals, straight traffic and traffic turning left need to share a lane that trips the light. Right turns should never stop cross traffic.

Public Meeting Materials

The materials presented at the public meeting is included on the following pages.

envision erie parkway

The Town of Erie kicked off the Erie Parkway Corridor Study in March 2016 with the goal of creating a vision for this key corridor within our community. The study area includes Erie Parkway from I-25 on the east to U.S. Highway 287 on the west.

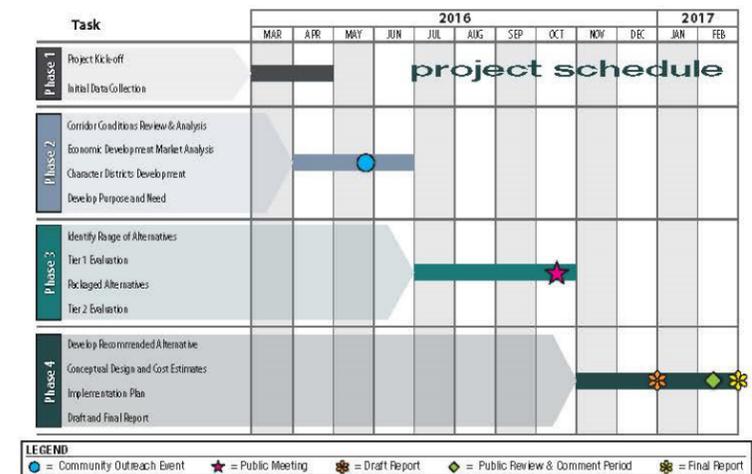


project tasks:

- Inventory and analyze existing corridor conditions.
- Solicit input from the public and understand community values.
- Create a vision for the corridor.
- Develop streetscape and multimodal corridor alternatives.
- Identify a preferred alternative for consideration by the Board of Trustees.
- Craft an implementation plan for the preferred alternative and identify potential funding sources.

purpose:

The purpose of the project is to identify, and eventually implement, multimodal transportation improvements to enhance mobility and safety along Erie Parkway, as well as define streetscape design elements that will support local economic vitality, retain the small town character and enhance the identity of Erie.



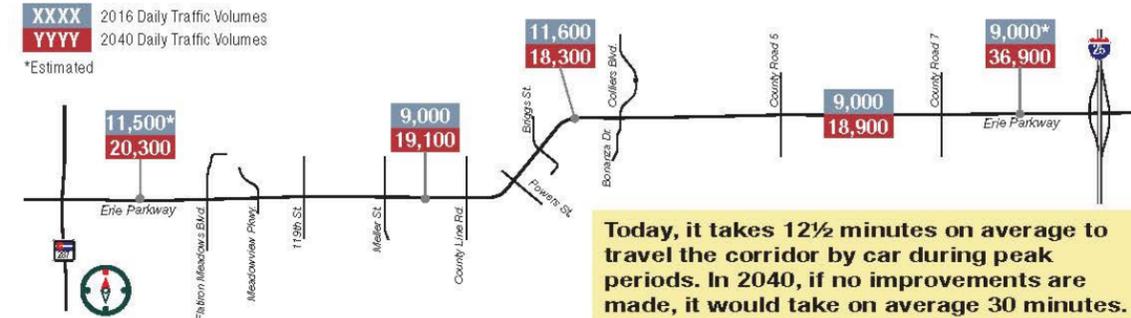
Visit us at www.envisionerieparkway.com to stay involved and tell us what you think!



corridor needs

mobility:

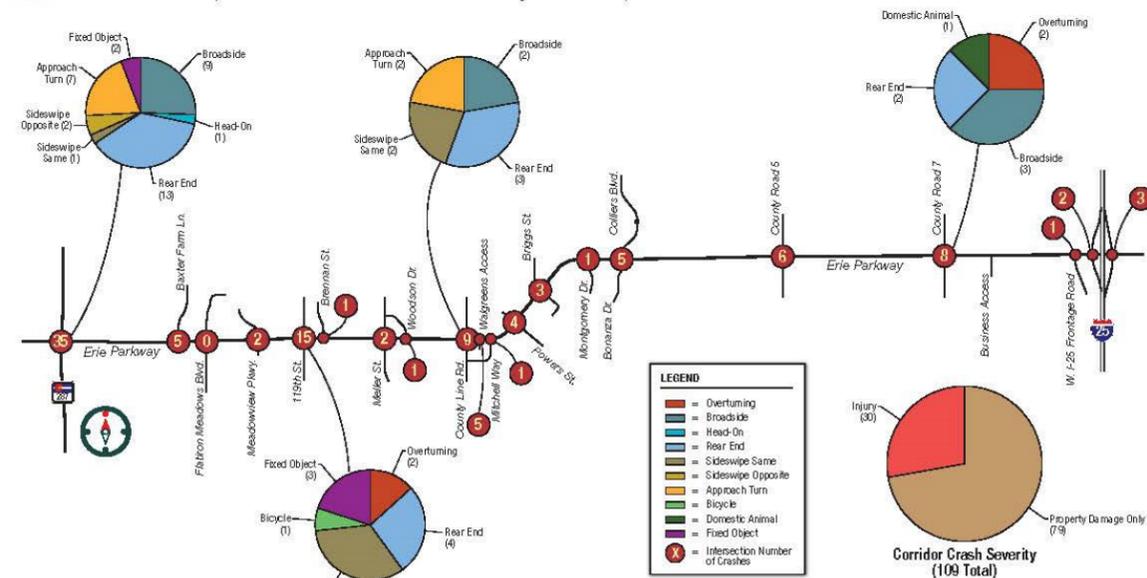
- Local and regional travel demand and traffic congestion along the corridor are expected to increase
- due to residential and employment growth along Erie Parkway and the surrounding areas.



current and future traffic

safety:

- There is a higher than expected number and severity of crashes at the intersection of US 287 and Isabelle Road (west end of the Erie Parkway Corridor).

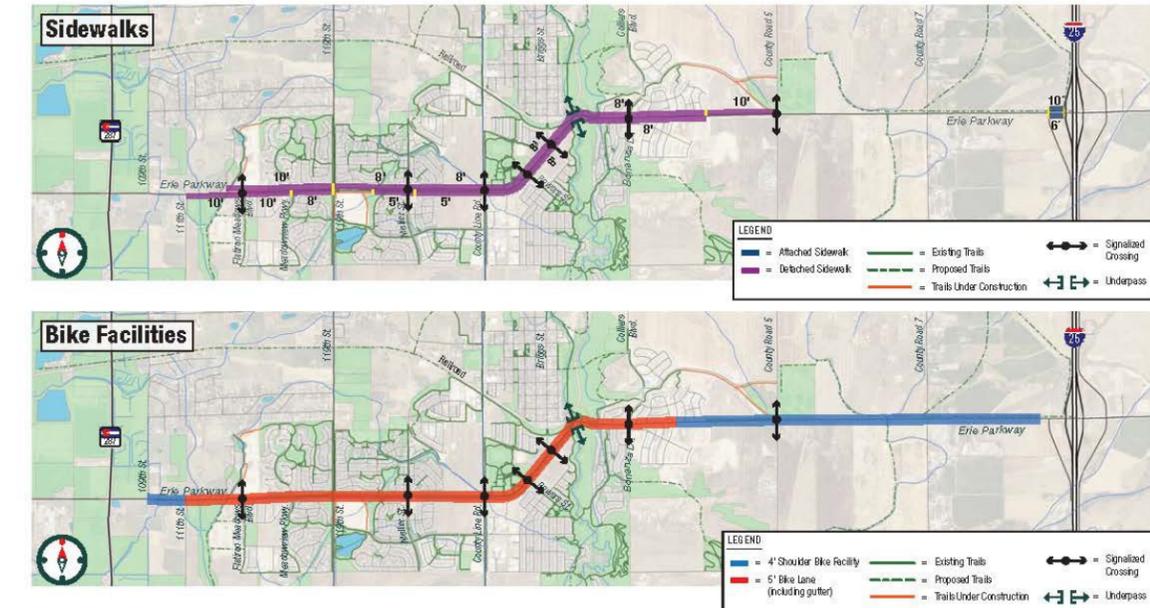


crash history (2012-2014)

corridor needs

bicycle and pedestrian activity:

- Today's bicycle and pedestrian infrastructure along and across Erie Parkway does not provide
- sufficient connectivity, comfort and safety to support walking and biking in the community.



character and identity:

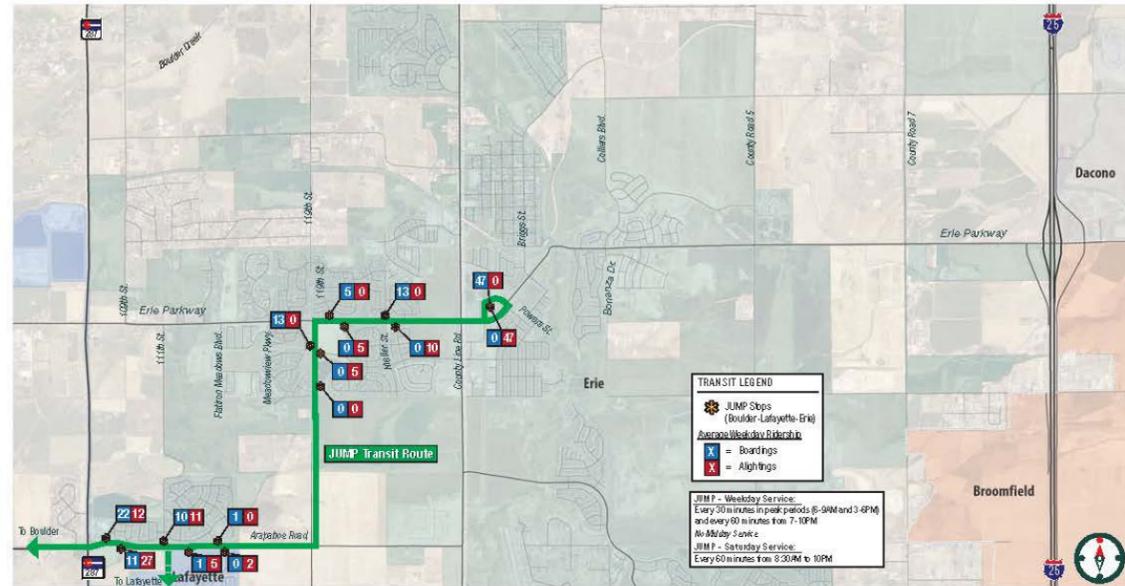
Erie Parkway is a major spine through the Town of Erie. The current corridor design is inconsistent and lacks elements to support the desired small town character and unique identity of Erie.



corridor needs

transit accessibility:

Transit service along Erie Parkway is limited and lacks transit-supportive infrastructure, amenities, and connections to destinations along the corridor to support future services.



economic vitality:

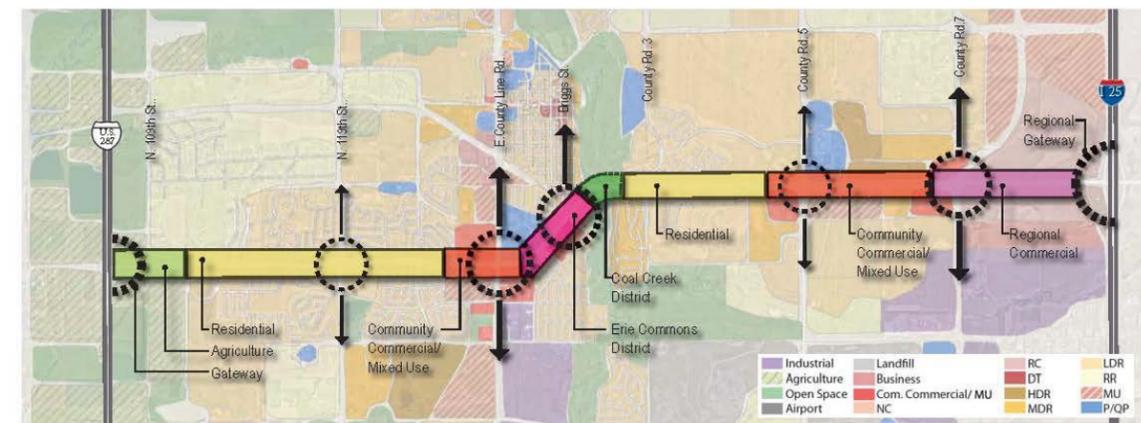
Transportation infrastructure is needed to support economic development along Erie Parkway, and to provide connectivity to downtown commercial and civic activities.



character districts

The character along Erie Parkway varies. Character Districts are defined to help inform decisions about design solutions that complement the surrounding land uses today and in the future. The west end of the corridor is in an agricultural landscape, and the east end is envisioned as a highly commercial area that is greatly influenced by I-25. Between these ends are districts that will consist of low-density residential, and urban mixed use commercial with higher density residential. The journey from one end of the corridor to the other is interrupted by the

crossing of Coal Creek, a wonderful riparian corridor. The intersection at Briggs Street marks the south end of historic downtown. The primary gateways to the Town of Erie are at the ends of the corridor. At these locations substantial architectural or sign feature may be considered on the corners and possibly in the median that acknowledges the edge of Town limits. There are sub-gateways at edges to the character districts that occur along the corridor, as well as at the intersections that lead to historic downtown.



tier 1 alternatives

A range of transportation improvements were identified to potentially address the Erie Parkway corridor needs. Each Tier 1 Alternative was evaluated independently to assess its ability to meet the corridor needs. The Tier 1 Alternatives and the results of the Tier 1 Evaluation are summarized below.

general purpose lanes

- ✗ 2 Lanes – traffic forecasts in the future exceed 2-lane capacity
- ✓ 4 Lanes
- ✓ 6 Lanes – only for the short section between I-25 and future commercial access



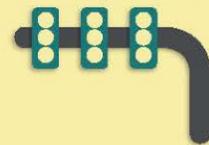
access & access control

- ✓ Medians
- ✗ High Access Control – although it would improve vehicular mobility, it would be detrimental to the economic vitality, character, and bicycle and pedestrian modes
- ✓ Moderate Access Control
- ✓ Low Access Control



intersection treatments

- ✓ Traffic signals
- ✓ Capacity improvements (additional turn lanes)
- ✓ Roundabouts



bicycle & pedestrian facilities

- ✓ Shared use paths
- ✓ Detached Sidewalks
- ✓ Bike lanes
- ✓ Buffered bike lanes
- ✓ Crossing enhancements at signalized intersections
- ✓ Mid-block crossings
- ✓ Underpass/overpass



transit

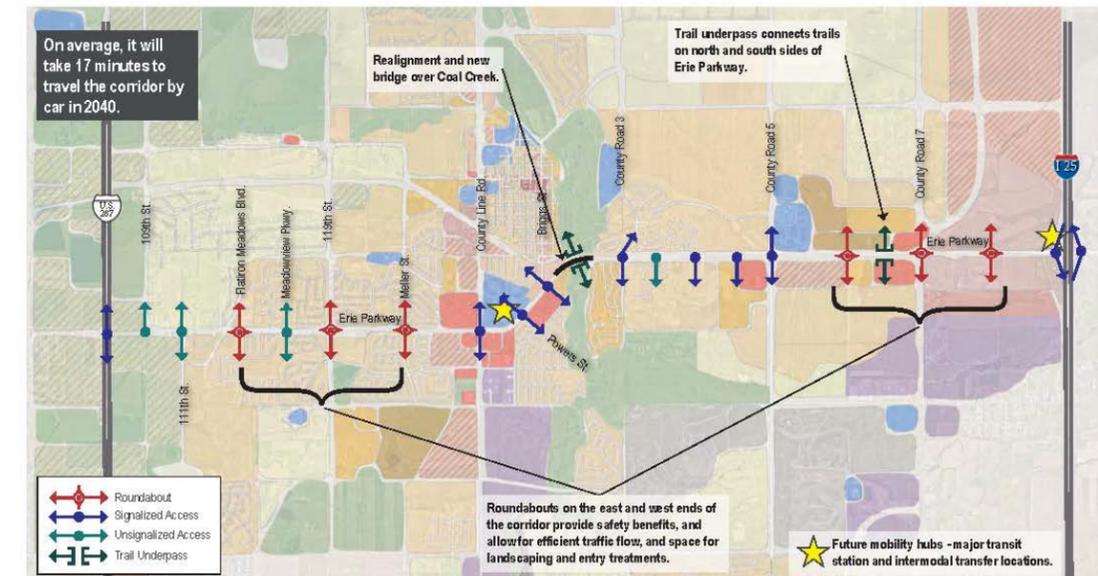
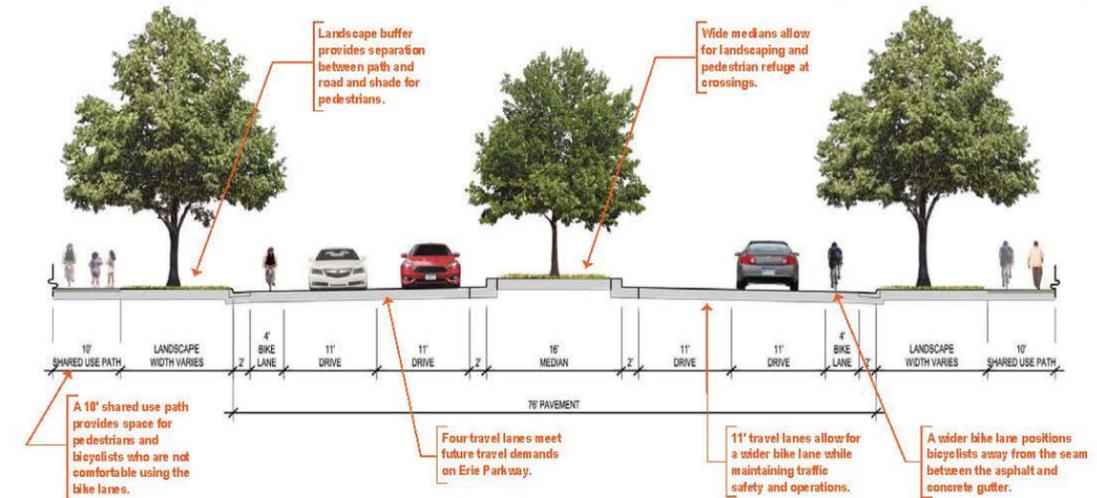
- ✓ Future bus stops
- ✗ Bus pull-outs – RTD prefers bus stops on outermost travel lane; can be difficult to enter back into travel lane from pull-outs
- ✓ Mobility Hubs



✓ = Retained
✗ = Eliminated

packaged alternative A

- KEY FEATURES:
- 4 Lanes on Erie Parkway
 - Wide Medians
 - Moderate Access Control
 - Roundabouts
 - Shared Use Paths
 - Bike Lanes



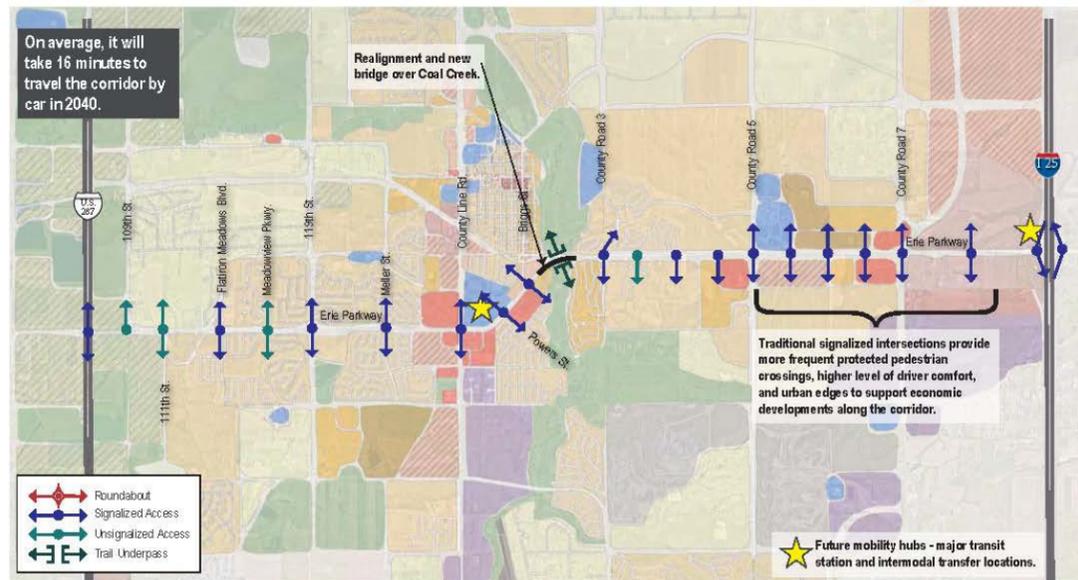
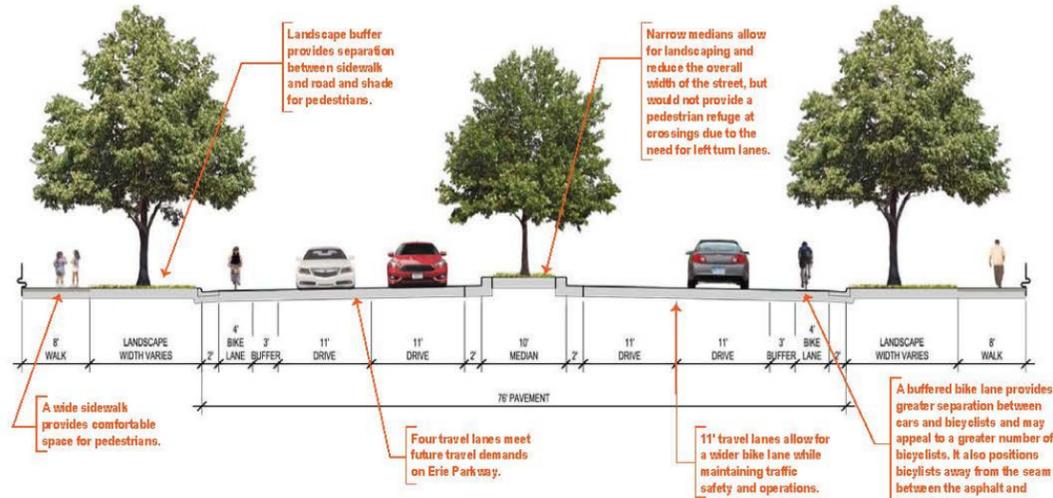
FELSBURG HOLT & ULLEVIG TOWN OF ERIE 1874

Industrial	Landfill	RC	LDR
Agriculture	Business	DT	RR
Open Space	Com. Commercial/ MU	HDR	MU
Airport	NC	MDR	P/QP



packaged alternative B

- KEY FEATURES:**
- 4 Lanes on Erie Parkway
 - Narrow Medians
 - Low Access Control
 - Traditional Intersections
 - Sidewalks
 - Buffered Bike Lanes



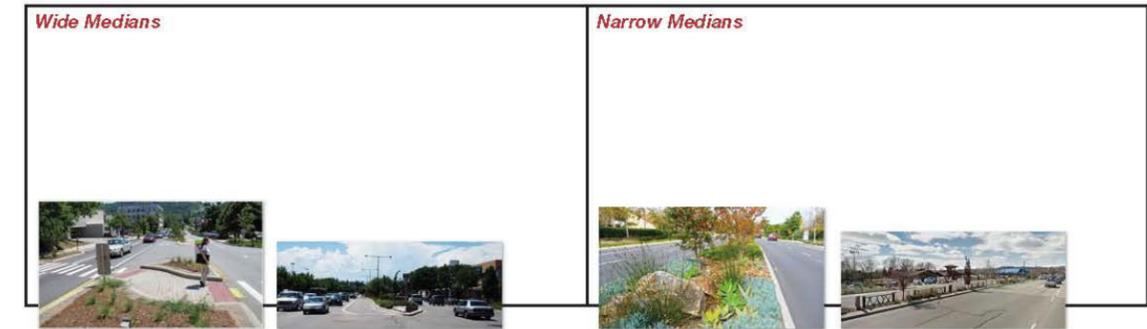
FELSBURG HOLT & ULLEVIG TOWN OF ERIE 1874

Erie Parkway Corridor Study 15-237 10/13/16

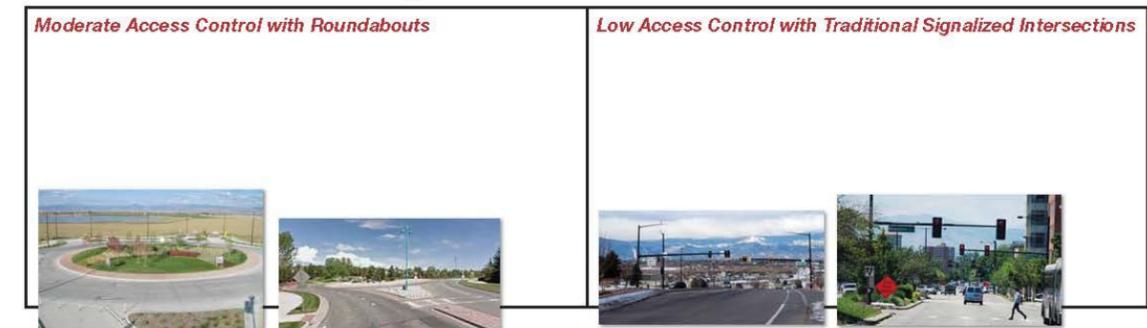
developing a preferred alternative - part 1

The next step is to develop a preferred alternative for Erie Parkway based on the input received from the community and a technical evaluation of the two alternatives. The preferred alternative may be a combination of elements from Alternative A and Alternative B. *Please help us understand your preferences by placing a dot by the design elements that you feel would be best for Erie Parkway.*

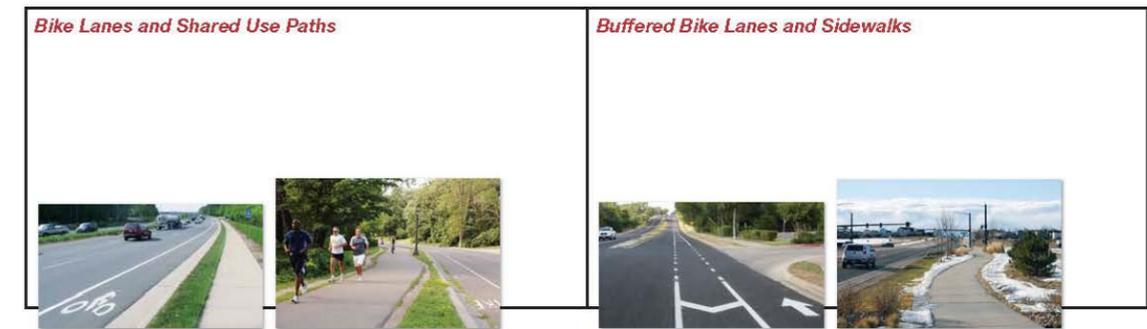
1. Do you prefer the wide medians in alternative A or the narrow medians in Alternative B?



2. Do you prefer the moderate access control with roundabouts in Alternative A or the low access control with traditional signalized intersections in Alternative B?



3. Do you prefer the bike lanes and shared use paths in Alternative A or the buffered bike lanes and sidewalks in Alternative B?



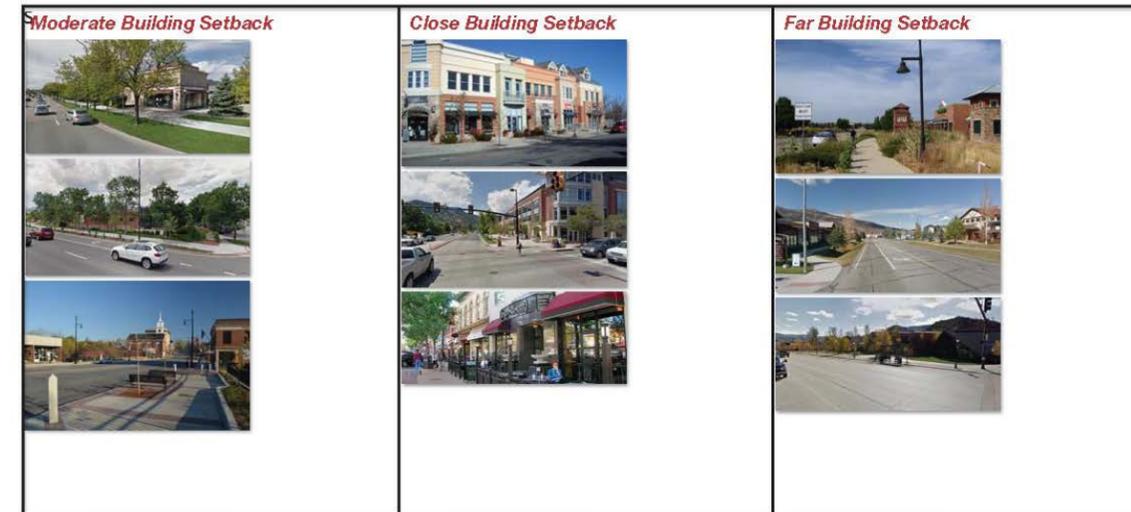
developing a preferred alternative - part 2

In addition to the design elements described for Alternatives A and B, the preferred alternative will include:

- Urban design and landscaping
- Entry treatments and signage
- Bus stop locations and amenities
- Intersection capacity and safety improvements
- Traffic signal coordination improvements
- Pedestrian crossing improvements

Please help us understand your preferences by placing a dot by the design elements that you feel would be best for Erie Parkway.

4. What is your preference for building location relative to the street in the commercial and Erie Commons area?



5. Which intersection character do you prefer?



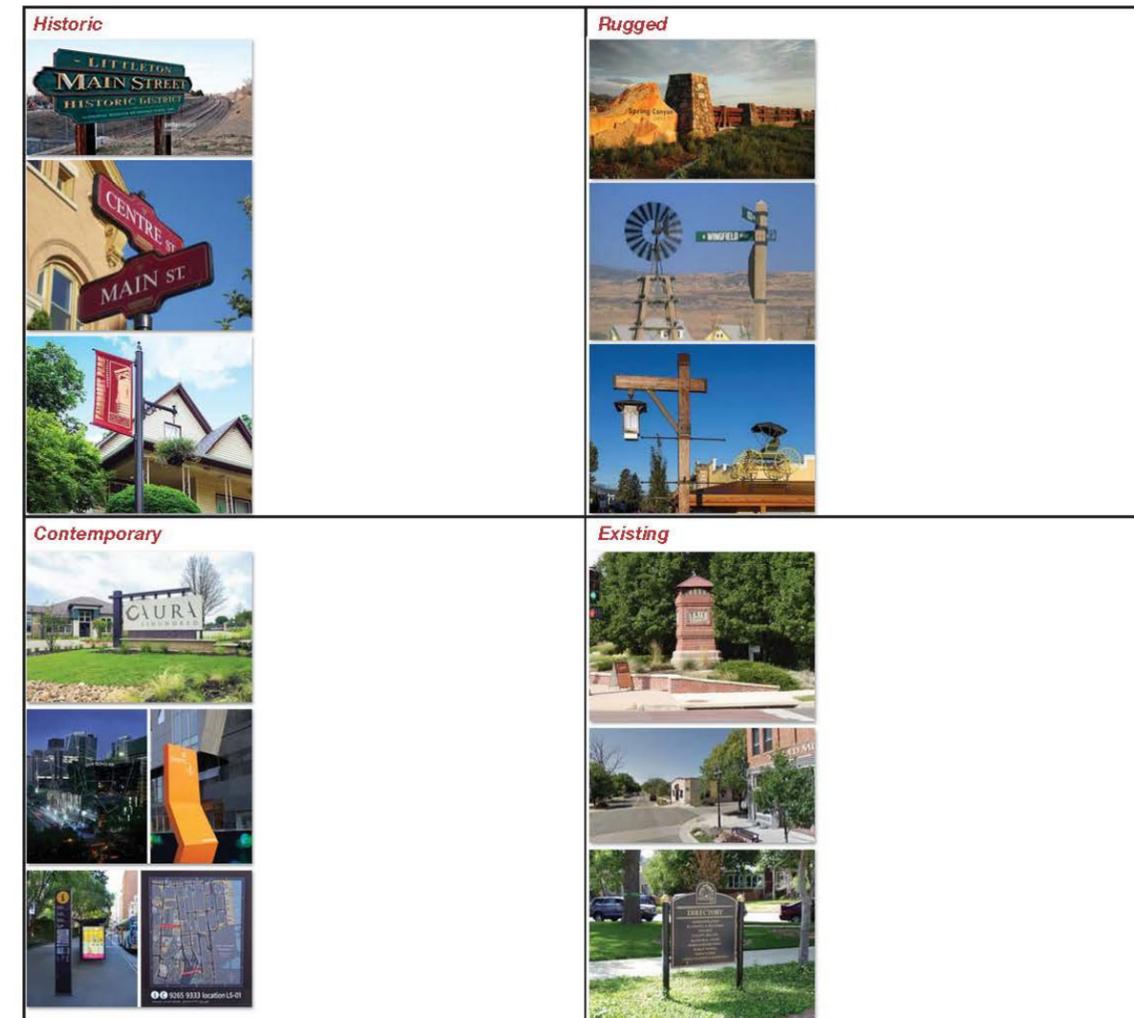
developing a preferred alternative - part 2

In addition to the design elements described for Alternatives A and B, the preferred alternative will include:

- Urban design and landscaping
- Entry treatments and signage
- Bus stop locations and amenities
- Intersection capacity and safety improvements
- Traffic signal coordination improvements
- Pedestrian crossing improvements

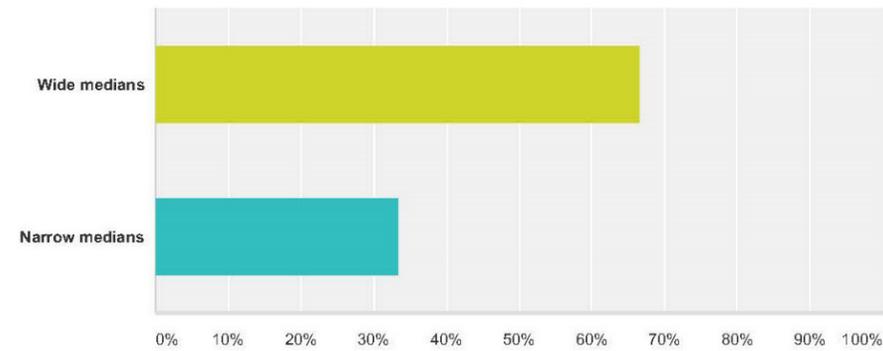
Please help us understand your preferences by placing a dot by the design elements that you feel would be best for Erie Parkway.

6. Which signage character do you prefer?



Q1 Do you prefer the wide medians in Alternative A or the narrow medians in Alternative B (refer to example pictures below)?

Answered: 111 Skipped: 0



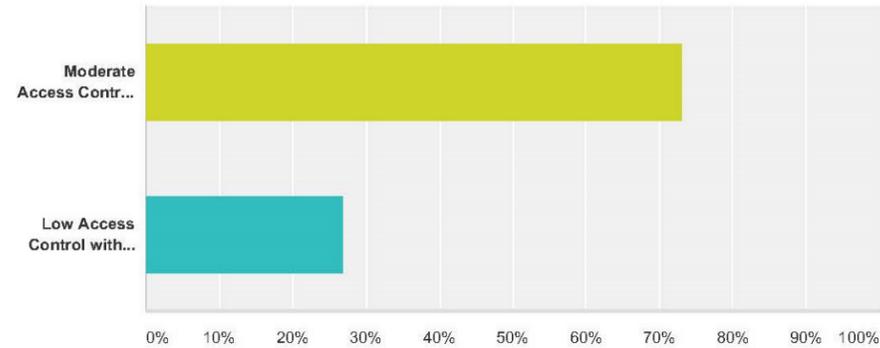
Answer Choices	Responses
Wide medians	66.67% 74
Narrow medians	33.33% 37
Total	111

#	Please comment on your preference:	Date
1	To save \$\$	11/2/2016 8:00 PM
2	I prefer neither I think its all a bunch of shit!!	11/2/2016 2:25 PM
3	More landscaping=more unnecessary water use	11/2/2016 12:15 PM
4	Better support for pedestrians and cyclists as area and traffic grows	11/2/2016 9:46 AM
5	Nicer city	11/2/2016 6:36 AM
6	Wide medians provide for safety and enhanced aesthetic appeal.	11/1/2016 8:54 PM
7	Pedestrian refuge is desired for aged and school age citizen.	11/1/2016 8:34 PM
8	I'd prefer more space for cars than median space used for vegetation (that sometimes restricts views)	11/1/2016 8:31 PM
9	Better visibility	11/1/2016 7:51 PM
10	More in line with the current town design	11/1/2016 7:43 PM
11	Keep some views of the mountains	11/1/2016 7:41 PM
12	decrease impact on land/labor for maintaining landscapes and increase visibility.	11/1/2016 4:37 PM
13	This would allow pedestrians time to safely cross all 4 lanes	11/1/2016 4:05 PM
14	Wide Medians can cause issues at intersections at times due to greater distance to see and observe.	11/1/2016 3:52 PM
15	Preference is for less signaled intersections. OK with either design layout but the less signals the better.	11/1/2016 3:51 PM
16	I believe it is more attractive and I like the larger shared paths for cyclists.	11/1/2016 3:44 PM
17	Buffer protection for bike lane is a difference maker	11/1/2016 3:42 PM

18	Allows for much more attractive plantings and shared use sidewalks, which given the current traffic volumes on the road seem to be preferred (especially by families and parents with kids in a bike trailer)	11/1/2016 3:41 PM
19	more efficient use of space	11/1/2016 3:38 PM
20	Safer bike lanes are more important than wider medians.	10/20/2016 10:24 AM
21	I do not like roundabouts. Drivers never know how to use them.	10/20/2016 8:33 AM
22	Not a strong preference.	10/19/2016 7:58 PM
23	Better landscape better look	10/19/2016 6:58 PM
24	As I commented on the form at the meeting at the community center, the "buffer" option for cycling lanes looks safer than it really turns out to be due to the collection of road debris that, if our neighboring communities are an example, never get cleaned.	10/19/2016 5:45 PM

Q2 Do you prefer the moderate access control (fewer intersections) with roundabouts in Alternative A or the low access control (more intersections) with traditional signalized intersections in Alternative B (refer to example pictures below)?

Answered: 111 Skipped: 0



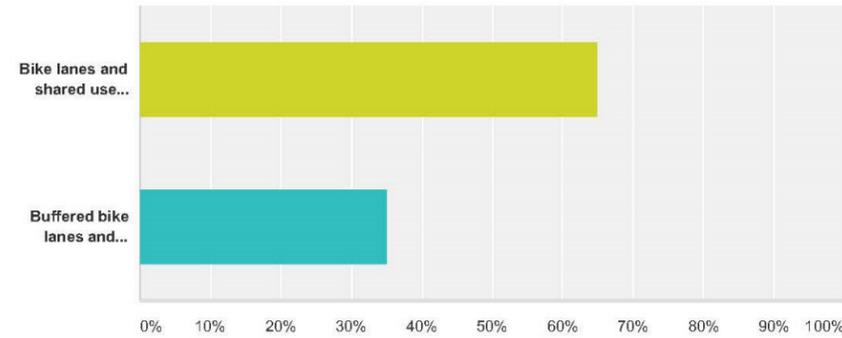
Answer Choices	Responses
Moderate Access Control with Roundabouts	72.97% 81
Low Access Control with Traditional Signalized Intersections	27.03% 30
Total	111

#	Please comment on your preference:	Date
1	most drivers do not seem to know how to correctly use roundabouts	11/13/2016 3:12 PM
2	I hate roundabouts	11/2/2016 8:51 PM
3	Roundabouts are more efficient	11/2/2016 8:00 PM
4	I prefer neither.	11/2/2016 2:25 PM
5	Keeps traffic flowing better	11/2/2016 9:46 AM
6	Easier	11/2/2016 6:36 AM
7	There should not be a round about at Meller due to the number of kids crossing Erie Parkway there to get to Red Hawk.	11/1/2016 10:47 PM
8	I love the roundabouts EXCEPT the one at Meller & Erie Parkway. Too many kids cross there to/from school.	11/1/2016 9:25 PM
9	Round about a promote traffic flow... Traffic lights slow down traffic causing congestion.	11/1/2016 8:54 PM
10	Just don't like round abouts.	11/1/2016 8:34 PM
11	Roundabouts are fairly easy to use and I appreciate the flow of traffic (versus being stuck at a signal when I may be the only car, and still can't go).	11/1/2016 8:31 PM
12	People don't properly use round abouts	11/1/2016 7:51 PM
13	Less intersections is better. It's already difficult to get through the whole corridor without all of this proposed development.	11/1/2016 7:43 PM

14	Prettier, but please communicate the drivers on how to use them correctly	11/1/2016 7:41 PM
15	Why wasn't a third option (moderate access control with signalized intersections) considered?	11/1/2016 7:30 PM
16	I loathe roundabouts.	11/1/2016 6:40 PM
17	We should keep the traffic through Erie slower and under control.	11/1/2016 5:46 PM
18	People do not know how to use roundabouts. Please no roundabouts in such a busy area, it would be a nightmare!!!	11/1/2016 5:03 PM
19	less idling at signals is better for environment	11/1/2016 4:37 PM
20	But there needs to be a signal at Meadowview Pkwy to allow for safe crossing to the school	11/1/2016 4:05 PM
21	If Erie Parkway will be 2 lanes then I would say Signals since people have a harder time with merging and knowing when to enter a roundabout.	11/1/2016 3:52 PM
22	I believe this is a better choice - more efficient	11/1/2016 3:44 PM
23	If driven correctly allows for a continuous flow of traffic.	11/1/2016 3:41 PM
24	better flow for traffic, manageable for pedestrians if you don't make the center circle too high to see.	11/1/2016 3:38 PM
25	Do there really need to be 5 traffic lights between Co. Rds. 3 and 5.....way too many. And why so many roundabouts?	10/20/2016 4:16 PM
26	Only drivers that text like stop lights so the can get on their phone. roundabouts 'feel' more effectient for traffic flow.	10/20/2016 10:38 AM
27	roundabouts are too dangerous and waste space	10/20/2016 7:54 AM
28	If you are going to add roundabouts you better offer driver training on how to negotiate them. I have had all kinds of stupid behavior from drivers in front of me, including coming to a dead stop when the roundabout was empty, and people cutting me off while I was going around. From what I have seen a full 1/3 of drivers have no idea what to do in a roundabout. These can be real killers for unskilled drivers.	10/19/2016 7:58 PM
29	Less stop and go better flow with control	10/19/2016 6:58 PM
30	There would have to be some sort of crosswalk mechanism in the roundabouts to ensure pedestrian safety	10/19/2016 6:00 PM
31	I've heard some complaints about people not knowing how to use roundabouts properly clogging up commuter traffic in the morning at 119th St, but I personally have never experienced a slowdown or backup.	10/19/2016 5:45 PM
32	Erie had shown zero ability to properly control traffic with signals. Every intersection allows traffic turning right from side streets to trip the light and stop traffic. The sharing of right and straight lanes at every signal is asinine. I don't advocate for this town to have any more signals than is absolutely necessary due to the disaster of those already in place.	10/19/2016 5:43 PM

Q3 Do you prefer the bike lanes and shared use paths in Alternative A or the buffered bike lanes and sidewalks in Alternative B (refer to the example pictures below)?

Answered: 111 Skipped: 0

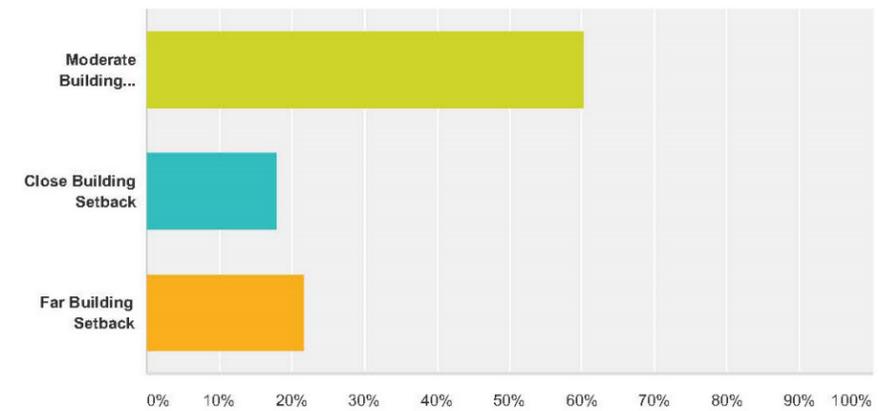


Answer Choices	Responses
Bike lanes and shared use paths	64.86% 72
Buffered bike lanes and sidewalks	35.14% 39
Total	111

#	Please comment on your preference:	Date
1	I think bike lanes are stupid,ride on the sidewalk or ride the lane that's already there.	11/2/2016 2:25 PM
2	Better	11/2/2016 6:36 AM
3	Shared use path is far better for families with younger children on bikes.	11/2/2016 6:24 AM
4	I would rather ride my bike on shared use pathways, I feel safer being separated from traffic.	11/1/2016 8:54 PM
5	Prefer space for bikes separate from pedestrians.	11/1/2016 8:34 PM
6	Buffered bike lines are confusing to car drivers and are not as safe.	11/1/2016 8:31 PM
7	More efficient	11/1/2016 7:51 PM
8	Buffered bike lanes often get abused by drivers as turn lanes	11/1/2016 7:43 PM
9	A great and well connected trial system is even better	11/1/2016 7:41 PM
10	Traffic control and preserving Erie smaller town feel is important.	11/1/2016 5:46 PM
11	drivers exhibit erratic behavior in this area. Lets protect bikers and pedestrians!	11/1/2016 4:37 PM
12	Buffered bike lanes are safer	11/1/2016 4:05 PM
13	Obviously a safer choice for cyclists	11/1/2016 3:44 PM
14	Erie has SO many families... I don't want to have my kids biking on the roads or pulled in a child trailer. No matter whether or not the bike lane is buffered we'll ride on the sidewalk!	11/1/2016 3:41 PM
15	Too many children in our town. I don't want them on the streets.....for their sakes and for the drivers....too scary.	10/20/2016 4:16 PM
16	Safer for drivers and bikes to have as much room as possible	10/19/2016 6:58 PM
17	Buffered bike lanes collect debris. Unless the town is committed to cleaning them regularly they are NOT safer.	10/19/2016 5:45 PM

Q4 What is your preference for building location relative to the street in the commercial and Erie Commons areas (refer to example pictures below)?

Answered: 111 Skipped: 0

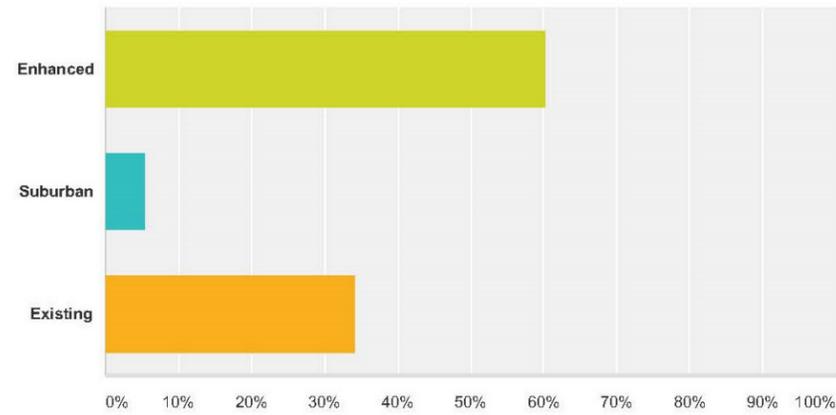


Answer Choices	Responses
Moderate Building Setback	60.36% 67
Close Building Setback	18.02% 20
Far Building Setback	21.62% 24
Total	111

#	Please comment on your preference:	Date
1	Need room for walking, running, etc without running into shoppers, but don't waste space	11/10/2016 4:09 PM
2	Moderate or close. I love traditional city streets with curbside business parking, along main streets	11/3/2016 4:47 PM
3	Good access but still allows trees and landscaping	11/2/2016 9:46 AM
4	Much better	11/2/2016 6:36 AM
5	I prefer moderate or far.	11/1/2016 8:54 PM
6	Aesthetically pleasing and functional without wasted space	11/1/2016 7:51 PM
7	Can we please retain some of the open feel of the town?	11/1/2016 7:43 PM
8	Mountain views	11/1/2016 7:41 PM
9	We don't want buildings too close to the street, but large parking lots are unattractive. I think moderate back with interior park would be nice.	11/1/2016 5:46 PM
10	less use of water on non native grass berms	11/1/2016 4:37 PM
11	Its a toss between moderate and far setback.	11/1/2016 3:44 PM
12	Nice balance of landscaping and being able to see the business from the road.	11/1/2016 3:41 PM
13	In cities like Fort Collins, with far setbacks, the landscaping has grown so much, you can't see the businesses which is a real problem if you don't know where specific ones are.	10/20/2016 4:16 PM

Q5 Which intersection character do you prefer (refer to the pictures below)?

Answered: 111 Skipped: 0

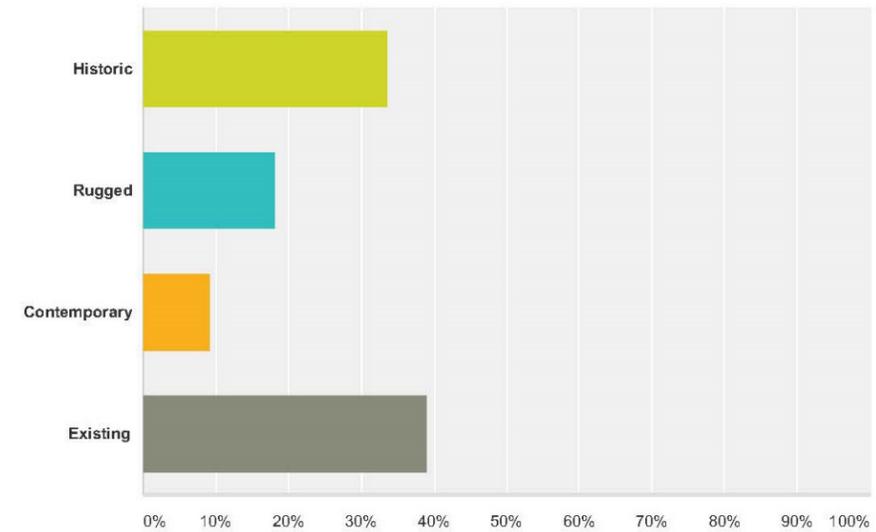


Answer Choices	Responses	
Enhanced	60.36%	67
Suburban	5.41%	6
Existing	34.23%	38
Total		111

#	Please comment on your preference:	Date
1	enhanced intersections if design does not impede visibility and safety	11/3/2016 4:47 PM
2	Enhanced or existing	11/2/2016 9:37 PM
3	More attractive	11/2/2016 9:46 AM
4	Enhanced looks more aesthetically appealing.	11/1/2016 8:54 PM
5	Enhanced intersection is aesthetic. The other two are ugly.	11/1/2016 5:46 PM
6	Gives more of a small town and upscale feel - not a concrete jungle.	11/1/2016 3:41 PM
7	But, if plantings are not maintained, it can be a mess. And, in Longmont it is hard to see pedestrians because of the plantings.	10/20/2016 4:16 PM

Q6 Which signage character do you prefer (refer to the example pictures below)?

Answered: 110 Skipped: 1



Answer Choices	Responses	
Historic	33.64%	37
Rugged	18.18%	20
Contemporary	9.09%	10
Existing	39.09%	43
Total		110

#	Please comment on your preference:	Date
1	Adds character	11/2/2016 9:46 AM
2	I do think it should be tailored to the area. Historic would be better near old town.	11/2/2016 6:24 AM
3	The existing signage keeps Erie looking like Erie!	11/1/2016 8:54 PM
4	Or rugged	11/1/2016 7:41 PM
5	The existing signage looks good.	11/1/2016 5:46 PM
6	only if it relates to mining towns. the pictures are too victorian for our town	10/20/2016 4:16 PM

Q7 Do you have any additional comments on Erie Parkway?

Answered: 27 Skipped: 84

#	Responses	Date
1	Minimize intersections and roundabouts. Don't need to be able to make a left turn out of every side street onto Erie Pkwy.	11/10/2016 4:09 PM
2	When will Hwy 7 get the same treatment, or is that Broomfield's problem?	11/8/2016 5:48 PM
3	Existing, rugged or historic would compliment the cities mining history the best IMO.	11/3/2016 4:47 PM
4	Just don't let the road developments ruin this town like the potential high density housing proposals would!!!!	11/2/2016 9:37 PM
5	Glad to see that there is so much thought being put into the development. Erie is a great town but seems to have lacked the planning that a Louisville has and as a result doesn't have the same level of attractiveness	11/2/2016 9:46 AM
6	as many roundabouts as is possible. Traffic lights create traffic jams and frustrated drivers	11/2/2016 3:36 AM
7	Much better lighting	11/1/2016 8:55 PM
8	Perhaps there should be alternate routes beyond just Erie pkwy	11/1/2016 8:27 PM
9	The small town with open spaces is what drew is to Erie 10 years ago. While land development is inevitable, we certainly have enough houses already.	11/1/2016 7:43 PM
10	Please review the posted speed limit for the entire length of Erie Parkway for consistency and appropriateness. The section west of County Line Road has limited access and has a lower posted speed limit than the section east of County Line with more access. Also, the traffic signal operation at County Road 5 and Erie Parkway could use improvement.	11/1/2016 7:30 PM
11	More enforcement of speed limits, stop signs and traffic lights. It has become a raceway for drivers speeding through town	11/1/2016 7:24 PM
12	I like the addition of bike underpasses. Please don't add a lot of round about.	11/1/2016 6:40 PM
13	Not much here helps make decisions around commute time and safety. Such as how safe are round abouts for bikes? Roundabouts may be better served with multipurpose sidewalks with clear crossing. But not sure what trade offs my preferences have.	11/1/2016 6:33 PM
14	I drive it daily and appreciate the effort and organization of the work.	11/1/2016 5:52 PM
15	Please keep Erie looking good, and don't let it turn into a monster town.	11/1/2016 5:46 PM
16	Drivers headed up to I-25 want to get through Erie quickly and will speed. It is almost impossible for pedestrians to cross safely unless they use the crosswalks which are very far apart. Adding pedestrian crosswalks may be helpful.	11/1/2016 4:37 PM
17	Road construction has either been completed or is in process along multiple points. How will these sections be impacted. We suffered through the summer with the flatirons meadow works and would seem like a waste to start over.	11/1/2016 4:00 PM
18	We love Erie!	11/1/2016 3:44 PM
19	Sound buffering/mitigation should be considered between roadways and housing along Erie Pkwy.	10/20/2016 10:38 AM
20	Thank you so much for seeking our input!	10/20/2016 10:24 AM
21	I hope that Erie Parkway can be a solution to provide safe travel for high volumes of people while beautifying Erie and providing character that is obvious to those passing by. Landscaping the entire stretch will be vitally important - trees, signage, flowers, shrubs, grass, etc...	10/20/2016 9:17 AM
22	too much traffic	10/20/2016 7:54 AM
23	Please keep it as unique and "small town" as possible with a sense of charm. Too many Colorado towns are becoming monotonous suburban sprawls.	10/19/2016 11:13 PM

24	I think both alternatives are going to be disasters for traffic in and around Erie. With so many traffic lights you are quite likely to bring rush hour traffic to a full stop every evening. If you want to see what this is like take a ride down 119 between Main st in Longmont and I-25. You are going to choke downtown with all this development and no infrastructure to support it. Very bad decision making on Erie's part. Straighten out Erie Parkway thru town and bring it up to 3 lanes in each direction so you can handle egress and ingress traffic. Get rid of as many lights as you possibly can, and tie the rest of them together as a system so traffic is not brought to a full stop at every traffic light.	10/19/2016 7:58 PM
25	Don't turn it into another hwy 52	10/19/2016 6:58 PM
26	Please work constructively with Boulder County and to provide safer bicycle "commuting" options (not just recreational) that connect to our neighboring communities to the south and west. A safe connection to 95th St is a must.	10/19/2016 5:45 PM
27	Seriously.....at traffic signals, straight traffic and traffic turning left need to share a lane that trips the light. Right turns should never stop cross traffic. Also, the lights need to be cycled and managed in a manner to maximize through-put. More often than not, I stop at every single light, in both directions of Erie Pkwy because there appears to be ZERO technology in place to maximize the flow of the primary arteries.	10/19/2016 5:43 PM

Erie Parkway Public Works Open House – January 19, 2017

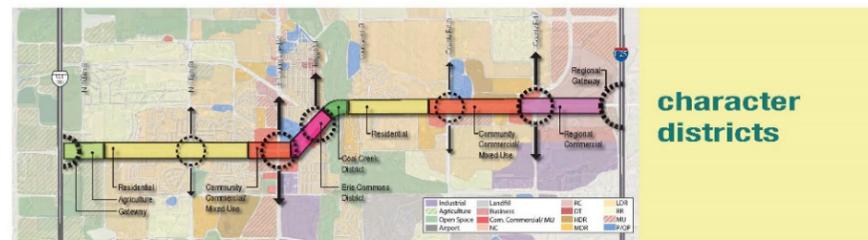
Public Meeting Overview

Overview

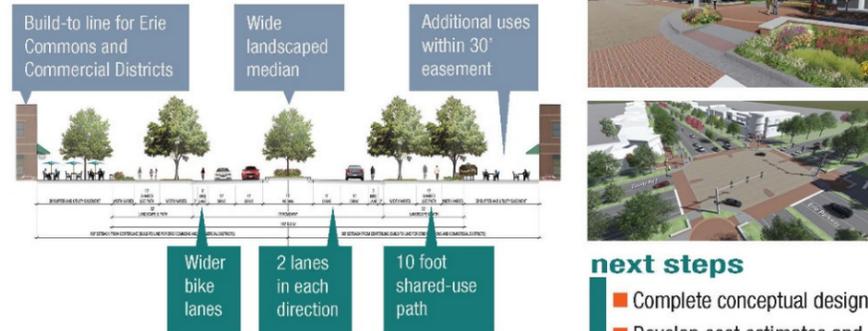
The Town of Erie hosted a Public Works Projects open house at the Erie Recreation Center on January 19, 2017. The project team presented was at the open house to provide an update to the public about the Erie Parkway Corridor Study and to present the preferred alternative (shown below) for the Corridor. The project team spoke with approximately 30 members of the public during the event.



Recommended Alternative



recommended cross-section



next steps

- Complete conceptual design
- Develop cost estimates and implementation plan
- Adoption by Board of Trustees





Environmental Considerations Report

Prepared for:

Town of Erie



Town Project #P15-433

Prepared by:

Felsburg Holt & Ullevig
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Centennial, CO 80111
303-721-1440

FHU Reference No. 115237-01

September 2017

Introduction

This report is intended to provide the foundation for the environmental considerations for the Erie Parkway Corridor Study. The development of a comprehensive understanding of environmental conditions of the study area (**Figure 1**) will provide the basis for the development of a project vision and alternatives, as well as scoping for potential future projects receiving federal funding and requiring National Environmental Policy Act (NEPA) clearance.

Project Description

This project involves the potential widening of Erie Parkway and defining creative and multimodal streetscape solutions for Erie Parkway that will further enhance the community and create an inviting entrance to the Town. A successful Erie Parkway Corridor Study will:

- Recognize common goals and objectives (including mobility, safety, accessibility, modal options, community character, etc.) while balancing the diverse views of the stakeholders;
- Create a vision for a cohesive Erie Parkway Corridor that celebrates the Town's unique character, complements adjacent land uses (existing and future), and acts as a blueprint for future improvements;
- Lay the foundation of the environmental clearance (NEPA) process for future projects that may be built with federal or state funding, and;
- Progress the recommended alternative through conceptual design and cost estimation to facilitate the creation of a realistic implementation plan that will position the Town to pursue funding of projects

Environmental

Environmental data collection for the Erie Parkway Corridor Study occurred by performing a desk-top survey, a field survey and referencing available agency electronic files and GIS base mapping. Mapping of the existing environmental conditions is provided in **Figure 1 and Figure 2**.

The study area for the Erie Parkway Corridor Study extends from the intersection of Erie Parkway and I-25 in the east to the intersection of Erie Parkway and US 287 in the west. The study area was then created by adding a 250-foot buffer to the right-of-way for the Erie Parkway Corridor. Since future projects would involve widening of Erie Parkway and would not require realignment, we determined that this size of study area would be adequate for capturing existing environmental considerations.

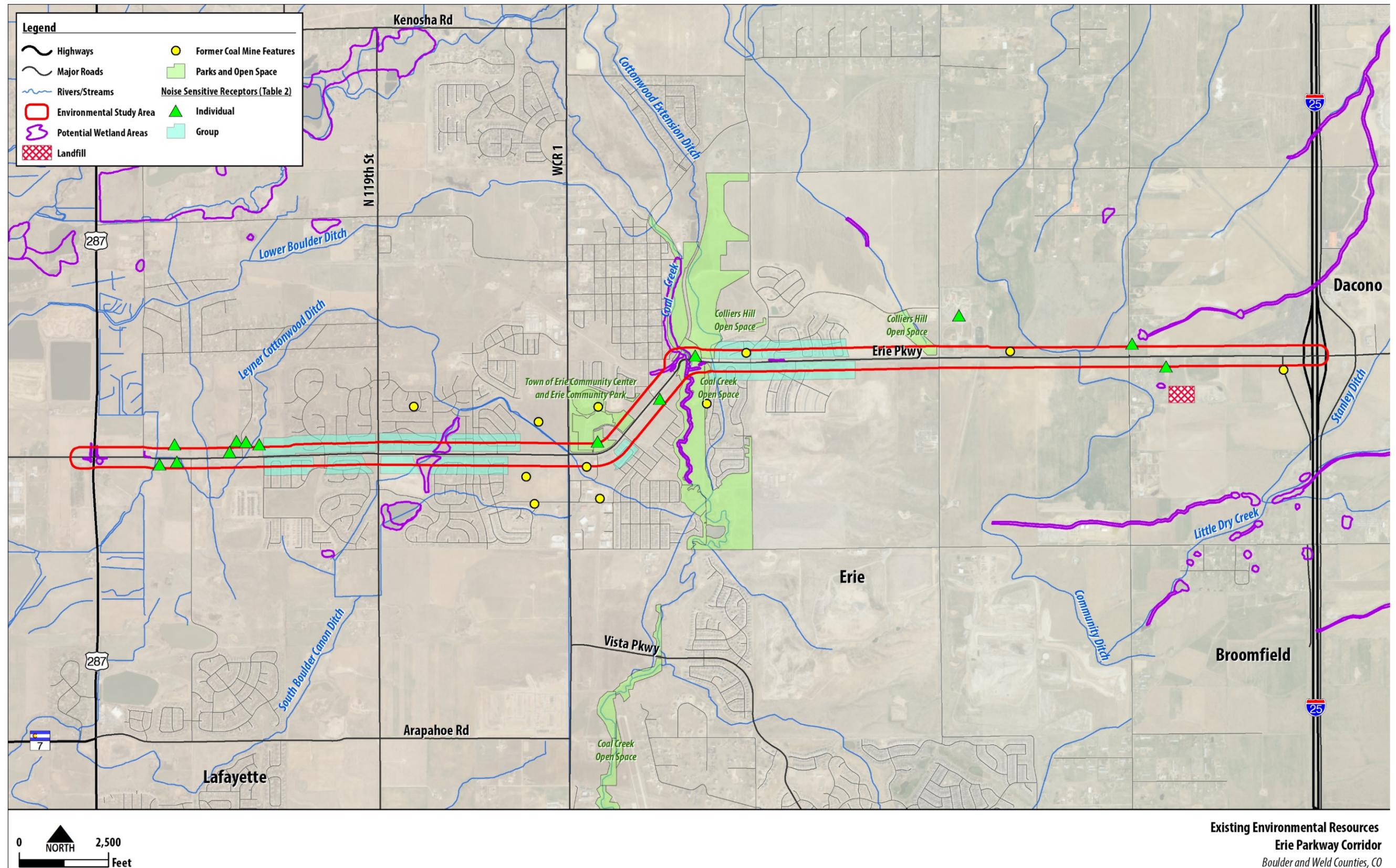
Potential for environmental impacts were considered as part of the corridor study. The purpose of this preliminary environmental analysis was to identify environmental issues that may affect the planning decision and to identify environmental issues that may require additional evaluation in any future NEPA documentation. The goal of the evaluation will be to identify resources that could affect potential future funding scenarios (such as federal funding requiring NEPA clearances), project schedules, and project costs. The analysis was conducted by reviewing available existing documents, conducting archival research and site visits, and performing scientific analysis. Portions of the study area were included in the *North I-25 Final Environmental Impact Statement, Final Section 4(f) Evaluation* (Federal Highway Administration [FHWA] and Colorado Department of Transportation [CDOT], 2011). Additionally, the *State Highway 7 Planning and Environmental Linkages (PEL) Study* (CDOT, 2014) was utilized in helping to identify existing resources.

The purpose of identifying existing environmental conditions within the study area is to have a clear understanding of the existing physical opportunities and constraints of the study area. This understanding will serve to determine the project's physical limitations and impacts to cost and/or public acceptance. The identified existing environmental conditions within the study area are important because they will affect potential project alternatives as well as the level of future evaluation required as part of any NEPA documentation that will be completed for the project. The project team identified a list of resources potentially present within the study area that will require additional evaluation for any future NEPA documentation. Due to their importance to future project development, these resources were chosen to be evaluated for this existing condition report. These resources include:

- Noise Receptors
- Historic Resources
- Park and Recreational Resources
- Sites with Potential Hazardous Materials
- Biological (Wildlife and Threatened & Endangered Species)
- Wetlands and other Waters of the U.S.

This list is not to be considered all-inclusive and may be modified or adjusted as the project is developed. The level of analysis performed for the existing conditions is commensurate with the requirements of the FHWA and CDOT for Feasibility Studies.

Figure 1. Study Area and Environmental Resources



Noise Receptors

The potential for noise impacts from vehicles to receptors (i.e., properties) near transportation facilities is a general concern. Thresholds for determining traffic noise impacts have been established by state and federal transportation agencies (e.g., CDOT or FHWA) to guide these conclusions. The Noise Abatement Criteria (NAC) established by CDOT are presented in **Table 1**. There are receptors along the project corridors that may be impacted by noise (**Table 2**). When noise impacts are identified for a proposed improvement, mitigation actions for the impacted receptors are typically evaluated for the project design. An analysis of traffic noise levels and noise impacts may be needed in future phases of this project to address this.

Table 1. CDOT Noise Abatement Criteria

Land Use Category	CDOT NAC (Leq dB)	Description of Land Use Category
A	56 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	66 Exterior	Residential
C	66 Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	51 Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	71 Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	Not Applicable	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, ship yards, utilities (water resources, water treatment, electrical), and warehousing.
G	Not Applicable	Undeveloped lands that are not permitted for development.

Table 2. Noise Sensitive Receptors

	Location	Land Use/Receptor	CDOT Land Use Category
1	3206 Erie Parkway	Residence	B
2	3274 County Road 7	Residence	B
3	3180 County Road 5 (Erie High School)	School	C
4	North side of Erie Parkway – Starlight Circle to Dusk Place	Residences	B
5	South side of Erie Parkway – Highlands Circle to Montgomery Drive	Residences	B
6	North and south side of Erie Parkway near Coal Creek Bridge (Coal Creek Open Space)	Park/Trail System	C
7	201 South Briggs Street (Blue Mountain Montessori)	School	C
8	450 Powers Street (Erie Community Park)	Park/Recreation Center	C
9	South side of Erie Parkway – Powers Street to Gallegos Circle	Residences	B
10	North side of Erie Parkway – Stockton Drive to 119 th Street	Residences	B
11	South side of Erie Parkway – Mathews Circle to 119 th Street	Residences	B
12	North side of Erie Parkway – 119th Street to Walters Drive	Residences	B
13	South side of Erie Parkway – 119th Street to Meadow View Parkway	Residences	B
14	South side of Erie Parkway –Meadow View Parkway to Flatiron Meadows Boulevard	Residences	B
15	11367 Erie Parkway	Residence	B
16	433 Baxter Farm Lane	Residence	B
17	11317 Erie Parkway	Residence	B
18	11251 Erie Parkway	Residence	B
19	11046 Isabelle Road	Residence	B
20	10951 Isabelle Road	Residence	B
21	10974 Isabelle Road	Residence	B

Historic Resources

Historic and archaeological resources encompass man-made features and physical remains of past human activity, generally at least 50 years old (properties constructed in 1966 or earlier). In order to account for delay between the release of this report and the start of construction homes 45 years old and older were reviewed rather than just homes at least 50 years old. Historic resources include buildings, bridges, railroads, roads, and other structures. Archaeological resources are often buried and include artifacts and features associated with prehistoric Native American occupation but can also include historical (Euro-American) artifacts, features, and ruins.

Significant historic and archaeological resources are afforded consideration by Section 106 of the National Historic Preservation Act of 1966, as amended, as well as Section 4(f) of the Department of Transportation Act of 1966. Significant historic and archaeological resources are those that are listed or may be eligible for inclusion on the National Register of Historic Places (NRHP). Sites qualifying for the NRHP must retain sufficient integrity (of location, design, setting, materials, workmanship, feeling, and association) and meet one or more of the eligibility criteria specified in 36 CFR 60.4. To merit NRHP-eligibility, a site must meet one or more of the following criteria:

- A. Be associated with events that have made a significant contribution to the broad patterns of our history
- B. Be associated with the lives of persons significant in our past
- C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

- D. Have yielded, or may be likely to yield, information important in prehistory or history

Important historic and archaeological resources must be identified and considered during planning for federally-assisted transportation projects, in accordance with Section 106 of the National Historic Preservation Act. The Section 106 review process consists of the following steps:

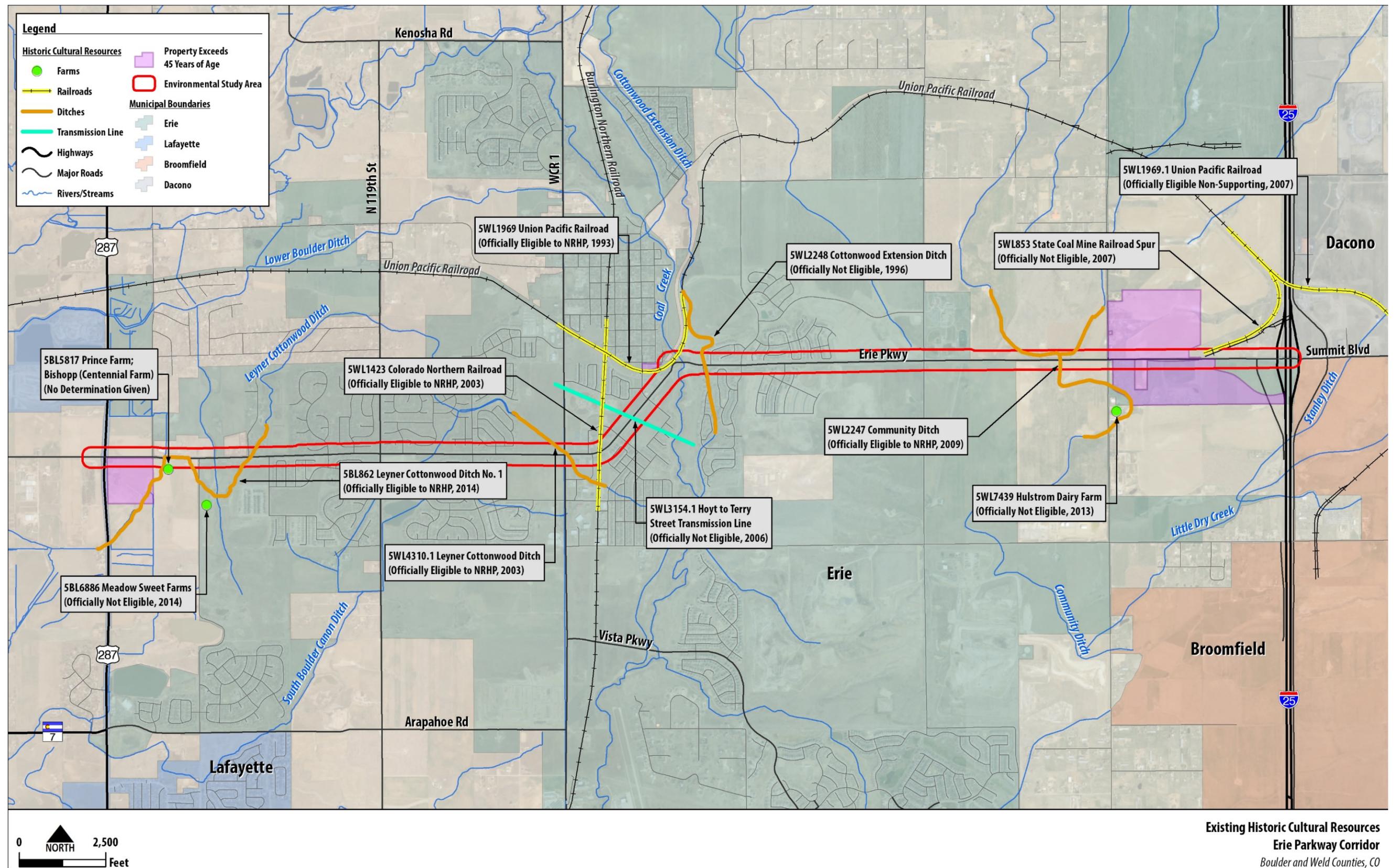
- Define an Area of Potential Effect (APE)
- Identify historic and archaeological resources through a file search and field surveys
- Evaluate the significance of historic and archaeological resources by applying the NRHP criteria
- Assess impacts to significant (NRHP-eligible or listed) resources by applying the criteria of adverse effects
- Consult with the State Historic Preservation Officer (SHPO) and consulting parties concerning NRHP-eligibility findings and determinations of effect
- Resolve adverse effects, in consultation with the SHPO, consulting parties and the Advisory Council on Historic Preservation

Important historic and archaeological resources are also afforded protection by Section 4(f) of the Department of Transportation Act of 1966.

Existing Historic Resources

The historic resources review was conducted and the designated and potential historic resources identified are shown in **Figure 2**.

Figure 2. Existing Historic Cultural Resources



The designated historic resources within the APE are summarized in Table 3.

Table 3. Designated Historic Resources within the APE

Resource No. Name	Year Built	Address/Location	Description	NRHP Status
5BL862.11 Leyner Cottonwood Ditch No. 1	1865	Isabelle Road, approx. 0.45 miles east of US-287	Irrigation ditch that derives its water from South Boulder Creek via New Dry Creek Carrier Ditch.	<i>Supporting Officially Eligible (2014)</i>
5WL2247.15 Community Ditch	1885	North side of Erie Parkway, 1.35 miles west of I-25	Irrigation ditch that derives its water from South Boulder Creek.	<i>Supporting Officially Eligible (2009)</i>

The historic resources review also identified ten sites potentially eligible for historic designation or requiring additional survey within the APE as shown in Table 4.

Table 4. Resources Potentially Eligible for Historic Designation within the APE

Resource No. Name	Year Built	Address/Location	Description	NRHP Status
5BL5817 Prince Farm; Bishopp (Centennial Farm)	1910-1940	10974 Isabelle Rd.	Centennial Farm, house built in 1910 and several outbuildings built between 1910 and 1940.	<i>No Determination</i>
5BL6886 Meadow Sweet Farms	1915-1984	3051 111 th Street	Farm house built in 1915, several outbuildings on site built between 1930 and 1984.	<i>Officially Not Eligible (1996)</i>
5WL853 State Coal Mine Railroad Spur	1939	North side of Erie Parkway, 0.5 miles west of I-25	Remnants of a railroad spur line.	<i>Officially Not Eligible (2007)</i>
5WL1423 Colorado Northern Railroad	1883	Approx. 0.34 miles northeast of Erie Parkway/E. County Line Rd. intersection	Abandoned railroad grade at time of survey in 2003. Since been removed.	<i>Supporting Officially Eligible (2003)</i>
5WL1969 Union Pacific Railroad	1869	Approx. 200 feet northwest of Erie Parkway near Montgomery Drive	Segment in proximity to Erie Parkway on the south side of the Town of Erie has not been surveyed. Overall resource has been determined eligible to the NRHP.	<i>Officially Eligible (1993)</i>
5WL1969.1 Union Pacific Railroad	1870	Approx. 0.4 miles north of Erie Parkway/I-25 interchange	Remnants of railroad segment that crossed I-25. Many features have been removed from site.	<i>Officially Not Eligible (2007)</i>

Resource No. Name	Year Built	Address/Location	Description	NRHP Status
5WL2248.1 Cottonwood Extension Ditch	1894	Southside of Erie Parkway at Montgomery Drive	Irrigation ditch located within new residential development. Ditch may have been piped underground.	<i>Officially Not Eligible (1996)</i>
5WL3154.1 Hoyt to Terry Street Transmission Line	1951	Crosses Erie Parkway between Powers Street and S. Briggs Street	Transmission Line with wood H-frame pole structures	<i>Officially Not Eligible (2006)</i>
5WL4310.1 Leyner Cottonwood Ditch	1865	Erie Parkway at E. County Line Road	Segment 5WL4310.1 has been piped underground. An unrecorded segment is located in northwest quadrant of Erie Parkway at E. County Line Road intersection	<i>Officially Eligible (2003)</i>
5WL7439 Hulstrom Dairy Farm	1909-1959	2714 County Road 7	Farm complex, house built in 1909, several outbuildings built between 1930 and 1959	<i>Officially Not Eligible (2013)</i>

Properties greater than 45 years in age would require a historical survey. Properties greater than 45 years in age within the APE are shown in Table 5.

Table 5. Properties Greater than 45 Years in Age within the APE

Parcel Number	Year Built	Address/Location	County
146722000026	1965	3206 Erie Parkway	Weld
146722200034	1930	3220 Erie Parkway	Weld
146715300082	1971	3274 CR 7	Weld
146719200019	1971	100 Perry Street #1	Weld
146719200019	1971	100 Perry Street #4	Weld
146523100004	1962	11515 Erie Parkway	Boulder
146522000019	1969	3350 N 107 th Street	Boulder

A complete historic review will need to be conducted before construction to determine if any of the APE's properties are individually eligible for the NRHP and concurrence from SHPO on the eligibility determinations will also be needed.

Park and Recreational Resources

Parks and recreational resources are important community facilities that warrant consideration early in the planning process of projects that are potentially federally funded. These resources include parks, trails, and open space areas that offer opportunities for recreation, including both passive and active activities.

There are roughly five types of parks and recreational resources: regional park and recreational facility, community park, neighborhood park, open space, and trails. Regional parks typically involve jurisdiction partnerships that contribute to the development and maintenance of the park. These areas serve residents throughout the Front Range and are regionally recognized. Privately and publicly owned and managed golf courses in the study area qualify as regional resources. Community parks are typically smaller in size than regional facilities and serve as an attraction for residents and communities within approximately three miles of the facility. Community parks are typically managed and maintained by one entity. Neighborhood parks typically serve residents and community members within a half mile radius of the park. These parks are typically accessed by non-motorized means and are managed by one jurisdiction. Open space areas include parcels that remain in a predominantly natural or undeveloped state. Many areas defined as open space are used as conservation easements on agricultural lands. Jurisdictional authority belongs to either the county open space department or municipal parks and recreation departments. Lastly, municipalities typically manage numerous miles of trails, including paved and unpaved trails. Trails often extend beyond one jurisdictional boundary into an adjacent boundary making them regional trails. It is typical for trails to follow existing linear features such as an irrigation ditch, river, or railroad.

Existing Park and Trail Resources

Details and characteristics of existing parks and recreational resources in the study area were identified through GIS and a site visit and are shown in **Figure 1**. Three park and/or recreational resource properties were identified in this evaluation because they are adjacent to or in close proximity of the study area and are listed below.

Erie Community Park

Erie Community Park is a Town of Erie park located approximately 2,000 feet southwest of the Coal Creek Bridge in the northeast quadrant of the Erie Parkway/County Line Road intersection. This 41-acre park consists of primarily developed land with numerous recreational facilities. Some of the features of the park include multi-use ballfields, drinking fountains, picnic tables, playground, restrooms, shelters, soccer/playing fields, tennis courts, and walking trails. The Erie Community Center, which is part of the park, is located on the southern edge of the Erie Community Park at 450 Powers Street.

Coal Creek Open Space

The Coal Creek Open Space is a public access area owned by the Town of Erie and situated along Coal Creek between Weld County Road 4 and Weld County Road 10. This open space features grassland, wetlands, bike/running trails, and streams.

Colliers Hill Open Space

The Colliers Hill open space is a public access area owned by the Community Development Group located in the northwest corner of the Erie Parkway/Weld County Road 5 intersection and along Coal Creek on the north side of Erie Parkway. This open space is part of the Colliers Hill housing development that is currently under construction just to the east of Erie. The open space features streams and wetlands and has plans for trails to be constructed in the near future.

Section 4(f) and Section 6(f) Evaluation

There are park properties present within the study area which are publicly-owned and are afforded protection under Section 4(f) as defined in 23 Code of Federal Regulations 774. A Section 4(f) resource is a property that functions or is designated as a significant publicly-owned park, recreation area, wildlife or waterfowl refuge, or historic site. If one of these properties is impacted as part of the proposed project then a Section 4(f) evaluation may be required for that particular resource. The following were identified as Section 4(f) resources within the study area:

- Erie Community Park
- Coal Creek Open Space
- Colliers Hill Open Space

There are currently no known properties within the study area that are afforded protection under Section 6(f) of the Land and Water Conservation Fund Act. Section 6(f) of the Act assures that once an area has been funded with Land and Water Conservation Fund assistance, it is continually maintained in public recreation use unless the National Park Service approves substitution property.

If any future projects will result in the use of any Section 4(f) resources, a formal Section 4(f) evaluation is required as part of the NEPA process and may result in Section 4(f) mitigation requirements.

Sites with Potential Hazardous Materials Concerns

This section provides a cursory review of properties with potential or known hazardous materials concerns located within or adjacent to the study area. The methodology used to identify sites with potential or known hazardous materials concerns included a review of Satisfi Hazmat sites and a field review. There was only one site with potential hazardous materials concerns identified within the Erie Parkway corridor, the Construction Recycling, Inc. landfill.

An additional item of concern noted for the study area includes abandoned coal mines. The community of Erie has a long history of coal mining, and the entirety of the study area is located within the Boulder-Weld Coal Field. The mines in the immediate vicinity of the study area were active as early as the late 1800's and some were still in use until the early 1970's. Approximately 1.25 miles of the Erie Parkway corridor for this study are underlain by abandoned coal mines. There are at least six different previously existing mining operations located in the study area. The location of the landfill and the former coal mine features can be found on the map shown in **Figure 1**.

There are three sections of the Erie Parkway study area that overlay previously developed coal mines. This is an important consideration due to ground subsidence that could occur in these areas. The section of roadway located between I-25 and the area just to the west of Weld County Road 7 is underlain by an abandoned coal mine with approximately 350 to 400 feet overburden. From ¼ mile east of Weld County Road 5 to ½ mile west of Weld County Road 5 is underlain by an abandoned coal mine with approximately 250 to 300 feet of overburden. Also, the diagonal section of Erie Parkway approximately in the center of the study area is underlain by an abandoned coal mine with approximately 50 to 100 feet of overburden.

A limited hazardous materials assessment of the corridor would be needed prior to construction, and properties to be acquired with hazardous materials concerns will require a site-specific Phase I Environmental Site Assessment as part of the right-of-way acquisition process. The purpose of conducting a more detailed hazardous materials assessment is

to provide the information needed to plan for known and potential hazardous materials and contaminated sites. During the planning and design process, this information can be used to identify avoidance options, when possible, and to assist with the development of specific contaminated soils/groundwater material management or mitigation measures.

Biological Resources (Wildlife and Threatened & Endangered Species)

Threatened, Endangered, and Candidate Species

A preliminary assessment was conducted to identify potential habitat for threatened, endangered, and candidate species within the study area. This assessment included collecting data from the United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPac) to identify any potential species within the study area. A detailed habitat evaluation was not performed in the study area.

Federally listed threatened and endangered species are protected under the Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.). Under Section 7 of the ESA, a consultation and clearance process with the USFWS is required if a federally listed species or its habitat will be affected by project activities. A list of threatened and endangered species potentially located in the study area is included below (see **Table 6**).

Table 6. Federally Threatened and Endangered (T&E) Species Potentially Found in Boulder and Weld Counties

Common Name	Scientific Name	Status*
Ute Ladies'-tresses	<i>Spiranthes diluvialis</i>	T
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	T
Species that may be affected, but only under certain conditions		
Interior Least Tern**	<i>Sternula antillarum</i>	E
Pallid Sturgeon**	<i>Scaphirhynchus albus</i>	E
Piping Plover**	<i>Charadrius melodus</i>	T
Whooping Crane**	<i>Grus Americana</i>	E
Western Prairie Fringed Orchid**	<i>Platanthera praeclara</i>	T

* T = Threatened Species, E = Endangered Species

** Water depletions in the South Platte River may affect the species and/or critical habitat in downstream reaches in other states.

Source: USFWS, 2016.

Migratory Birds

Migratory birds, including raptors, are protected under the Migratory Bird Treaty Act (MBTA) (16USC §§ 703-712). The eggs and active nests of migratory birds are also protected under the MBTA. Activities that may harm or harass migratory birds during the nesting and breeding season are prohibited by the MTBA. This includes the removal of active nests, which could result in the loss of eggs or young. A detailed habitat evaluation for migratory birds was not performed in the study area. However, suitable migratory bird habitat may be present in the area. The field survey completed in May 2016 did confirm that swallow nests are currently active under the Coal Creek bridge. Field surveys would be required to identify locations of any nests prior to construction. Similarly, a survey of other bridges and large culverts would be required to identify if swallows are currently nesting in those locations. A migratory bird survey would be required prior to future projects taking place to identify migratory birds and nests that may be impacted by project activities.

Wetlands and other Waters of the U.S.

The U.S. Army Corps of Engineers (USACE) defines wetland as “those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3b).

There are fourteen wetland areas within or directly adjacent to the study area for the Erie Parkway Corridor. There is one irrigation ditch wetland located on the north side of Erie Parkway near Colliers Boulevard. A large wetland complex, consisting of five wetland polygons, is located within the riparian corridor of Coal Creek which runs south to north through the center of the study area. Further to the west, there are two wetland areas on either side of Erie Parkway where overflow from a nearby lake drains north under the roadway. There is one ditch wetland located at corner of Erie Parkway and 109th Street. A freshwater pond wetland is located in the southeast quadrant of the Erie Parkway/US 287 intersection. Finally, there are stormwater ditch wetlands located in each corner of the Erie Parkway/US 287 intersection.

There are additional waters of the U.S. that are located within the study area. Community Ditch, an irrigation ditch, crosses the study area approximately 1000 feet to the west of Weld County Road 7. Cottonwood Extension Ditch crosses the study area 600 feet east of Coal Creek. Coal Creek runs south to north under Erie Parkway through the center of the study area. Leyner Cottonwood Ditch and an unnamed roadside drainage cross the study area at County Line Road. An unnamed tributary crosses the study area approximately 1,500 feet to the east of N 119th Street. Leyner Cottonwood Ditch crosses the study area again at Baxter Farm Lane and once more between N 111th Street and N 109th Street. An unnamed tributary crosses the study area 400 feet east of N 111th Street.

A wetland delineation was not conducted as part of this study. A formal wetland delineation would need to be conducted prior to construction in order to determine the exact extent of wetland areas in the study area. Wetland resources are protected under Section 404 of the Clean Water Act (CWA) and Executive Order 11990 Protection of Wetlands. The USACE Regulatory Program administers, and the United States Environmental Protection Agency (USEPA) enforces, Section 404 of the CWA. Under Section 404, a USACE permit is required for the discharge of dredged or fill material into waters of the U.S. The CWA defines waters of the U.S. as all navigable waters and their

tributaries, all interstate waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. The definition of waters of the U.S. under USACE jurisdiction does not include wetlands that do not have a surface connection to, and therefore are isolated from, regulated waters. Impacts to wetlands and waters of the U.S. will require mitigation in the form of wetland creation or purchase of wetland bank mitigation credits. A detailed wetland survey will need to take place prior to any future projects being constructed. This survey will determine the extents of the wetland areas and will be used to determine the total area of project impacts.

Next Steps

This environmental considerations report provides a general framework for the implementation of roadway improvements as funding becomes available based on the existing conditions along Erie Parkway. If future projects receive federal funding, this report should be used as a resource for the NEPA process. The NEPA processes that would be anticipated for future projects could be either an Environmental Assessment (EA) or a Categorical Exclusion (CatEx).

CatExs are the most common NEPA documents and are for actions that do not individually or cumulatively have a significant environmental impact, are excluded from the requirement to prepare an EA or an Environmental Impact Statement (EIS), and do not have substantial public controversy. CatExs are defined in 23 CFR 771.117, meet the definition from the Council on Environmental Quality in 40 CFR 1508.4, and are based on the past experience with similar actions of FHWA.

Based on this environmental considerations report, the following are the primary resources that will be most important to address for any future Erie Parkway improvement projects:

- Noise Analysis
 - A detailed analysis of traffic noise levels and noise impacts will be needed.
- Historic Resources
 - A historic survey will need to be conducted before construction to determine if any of the APE's properties are individually eligible for the NRHP and concurrence from SHPO on the eligibility determinations will also be needed.

- Section 4(f)
 - If future projects will result in the use of any Section 4(f) resources (historic and/or recreational), a formal Section 4(f) evaluation is required as part of the NEPA process and may result in Section 4(f) mitigation requirements.
- Hazardous Materials
 - A more detailed hazardous materials assessment would be needed prior to construction and properties to be acquired with hazardous materials concerns will require a site-specific Phase I Environmental Site Assessment as part of the right-of-way acquisition process.
- Wildlife and Threatened & Endangered Species
 - A detailed habitat evaluation would be required to determine if any federally threatened or endangered species would be impacted by future project activities.
 - A migratory bird habitat evaluation will be required prior to future projects taking place to identify migratory birds and nests that may be impacted by project activities.
- Wetlands and Other Waters of the U.S.
 - A detailed wetland survey will need to take place prior to any future projects being constructed.
 - Any impacts to wetlands and other waters of the U.S. will require a Section 404 permit and appropriate mitigation

Appendix C. Economic Development Assessment

The Economics of Land Use



Draft Report

Erie Parkway Corridor Study Economic Development Assessment

Prepared for:

Felsburg Holt & Ullevig
and
Town of Erie

Prepared by:

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October 3, 2016

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1. Introduction and Summary of Findings

Fellsburg, Holt & Ulliveg (FHU) was retained by the Town of Erie to complete an Erie Parkway Corridor Plan to identify transportation, urban design, and economic development improvements to the parkway. Economic & Planning Systems (EPS) was retained as a subconsultant on the FHU Team to provide an economic assessment of the corridor to identify impacts and opportunities for economic development on the corridor.

Scope of Work

This report presents a high level market assessment of residential and commercial trends and conditions. The analysis is intended to help identify opportunities for growth and development on the Erie Parkway Corridor as well as to provide input to corridor alternatives concerning commercial and employment growth

The report is provided in three sections following this Introduction as follows:

- **Demographic and Economic Trends** – This section review Town of Erie population and household conditions and trends, employment trends and growth, and community patterns.
- **Housing and Commercial Development** – This section tracks residential and commercial construction activity and trends and planned future development.
- **Employment Forecasts** – This section estimates Retail and Service sector employment based on the market forecasts as an input to refining the TAZ level estimates to be used for estimating 2040 traffic volumes on Erie Parkway.
- **Economic Development Opportunities** – An additional section of the report providing input on the impact of Erie Parkway design alternatives on economic development opportunities will be completed at a later date.

Summary of Findings

1. **The Town of Erie is an expanding suburb on the northern edge of the Denver metropolitan area that is expected to continue to grow over the next 25 years.**

Between 2000 and 2016, the Town’s population increased from 6,472 to 21,180 which is an annual average of 920 persons and a growth rate of 7.7 percent per year. Similarly, the number of households increased from 2,225 to 7,300 which is an annual average of 320 per year.

2. **Household incomes have grown considerably as new housing construction has moved from more affordable starter housing to more affluent move-up housing.**

In 2016, the median household income was estimated at \$111,011, which is up more than \$10,000 from 2010 Census figure of \$100,288. The 2016 average household income is estimated at \$128,000 up from \$111,011 in 2010. The distribution of households has shifted as well with 50 percent of all households with incomes over \$100,000 compared to 29 percent in 2000.

3. **Erie is similar to other emerging bedroom communities in the northern metro area with a large number of families with children under young children.**

Nearly 20 percent of the population of the town is under 10 years of age. The adult population has increased gradually but the largest group of adults is 35 to 44 years of age compared to 2000 when the largest cohort was 30 to 39 years of age.

4. **Although still predominately residential, the Town of Erie is adding employment at a high growth rate and has an opportunity to evolve into a more balanced community over the next 25 years.**

Between 2010 and 2014, the number of jobs in Erie increased from 1,535 to 2,258, which is an average increase of 181 jobs or 10.1 percent per year. The ratio of jobs to households has improved from 0.27 to 0.31 but is still reflective of a largely residential community.

5. **Only 20 percent of Erie employees both live and work in Erie; however, the majority of those commuting out work in nearby Boulder County communities.**

A total of 430 of 2,260 Erie based jobs are held by Erie residents. Although the remaining 8,470 employed persons are commuting, 2,230 or 27 percent work in Boulder and 1,360, or another 16 percent work in Louisville, Lafayette, or Longmont. This compares to 1,270 workers commuting to Denver which indicates Erie is largely a part of the Boulder area economy.

6. **The projected steady growth of housing development will increase opportunities for community oriented retail development over the next 25 years.**

The Town of Erie is projected more than double in size adding 12,500 households over the next 25 years to reach 23,373 in 2040. This household growth is estimated to support 877,500 square feet of community based retail space, a significant portion of which is expected be located in downtown and in neighborhood and community shopping centers along Erie Parkway on the eastern and western sides of the town.

7. **Regionally oriented retail development located in larger format stores and regional centers is expected to occur at the I-25 and Erie Parkway interchange, but will therefore not occur until the regional trade area population reaches 150,000 or more and until developments closer to Denver are developed.**

The current 7-mile regional trade area population is 30,176 households equating to approximately around 80,000 population. It will therefore be 10 years or more before regional power centers or lifestyle centers are expected to develop in the Erie area. Also there is a large amount of planned but unbuilt retail space at the I-25 and Highway 7 interchange three miles to the south that is expected to develop sooner.

8. **Over the next 25 years, Erie has an opportunity to increase its employment base through office and R&D jobs, most of which are expected to be located on the east side of the town near the I-25 and Erie Parkway interchange.**

Erie Corporate Center, Erie Ventures and Swink are three large landholdings planned for regionally oriented mixed use development north and south of the interchange. Much of this land, although in the Town’s planning area, is still unincorporated without adequate infrastructure. Also there remains a large amount of regionally oriented retail and business park capacity at the Highway 7 interchange three miles to the south which is expected to develop before development moves further north.

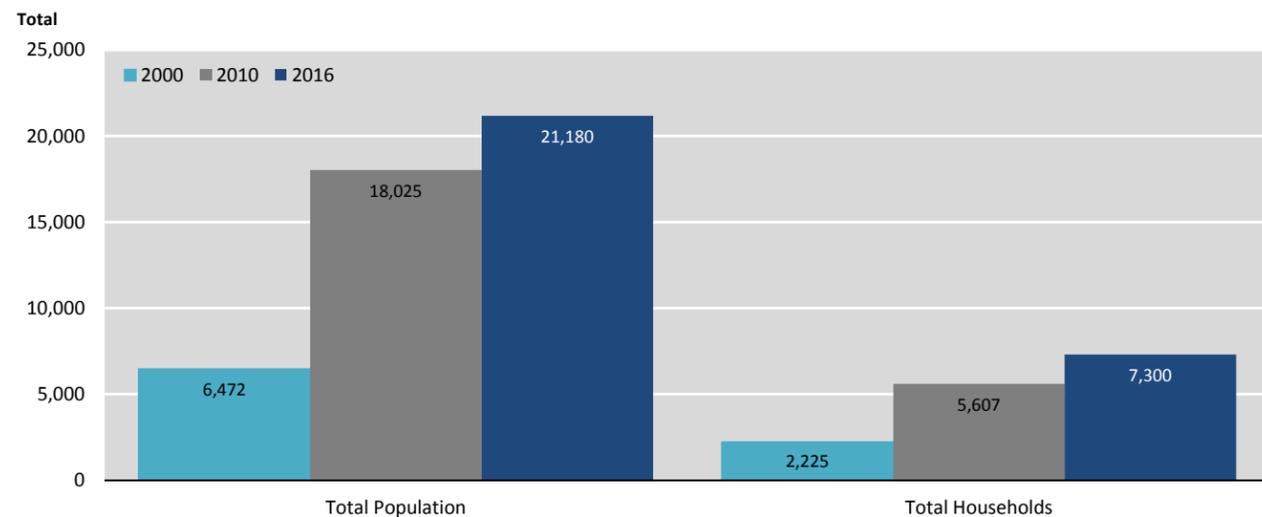
2. Demographic and Economic Trends

This chapter of the report reviews economic and demographic condition trends for the Town of Erie including population and household growth, demographic characteristics of the population, and employment growth and community patterns.

Population and Households

The Town of Erie is a rapidly growing suburb on the northern edge of the Denver metropolitan area and the eastern edge of the Boulder metropolitan area. Between 2000 and 2016, the Town's population grew from 6,472 to 21,180, which is an annual average of nearly 920 persons per year and an average annual growth rate of 7.7 percent per year, as shown in **Figure 1**. The number of households has likewise increased. In 2016, there were 7,300 households living in Erie which was an increase of 5,075 households since 2000. This translates to an annual average increase of 320 households per year or 7.7 percent annual growth.

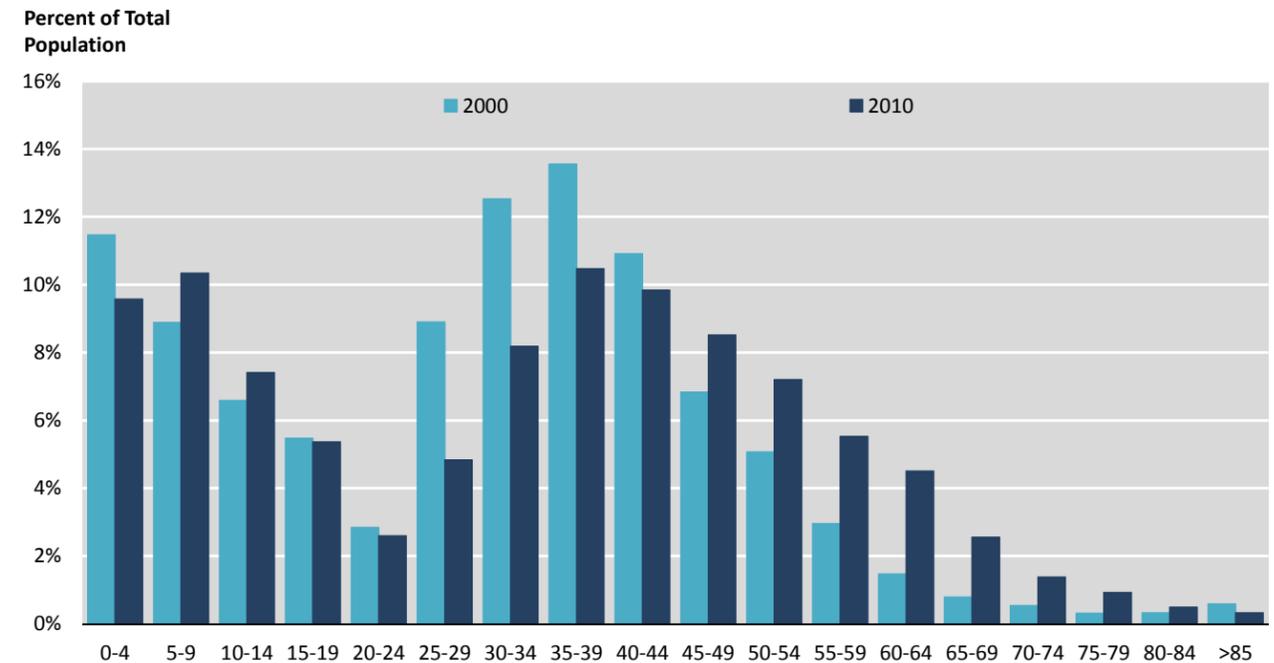
Figure 1. Population and Household Growth



Source: U.S. Census Bureau; Economic & Planning Systems
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The age distribution in Erie is similar to that of many emerging bedroom communities in the North I-25 Corridor, with a large number of households with younger children as nearly 20 percent of the population is under 10 years of age. The adult population is aging gradually but the largest grouping of adults is 35 to 44 years old compared to 2000 when the largest cohorts were 30 to 39 years old as shown in **Figure 2**.

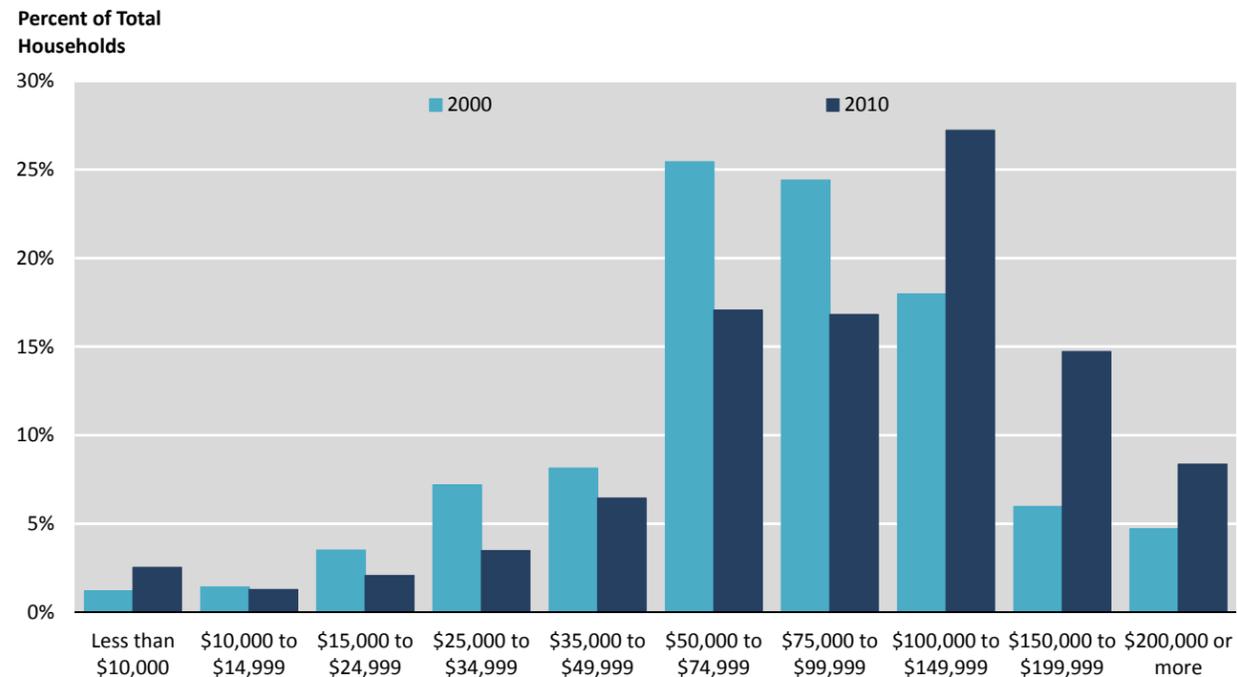
Figure 2. Age Distribution



Source: U.S. Census; Economic & Planning Systems
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In 2000, the median household income was \$77,114 and the average household income was \$86,278. In 2010, the median household income was \$100,288 and the average household income was \$111,011, which is an average annual 2.7 percent increase. Household income distribution shifted upward, particularly in the \$100,000 and over range, as shown in **Figure 3**. In 2000, 29 percent of households made over \$100,000; in 2010, approximately 50 percent of households made over \$100,000 as shown.

Figure 3. Income Distribution



Source: U.S. Census; Economic & Planning Systems
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In 2016, the median household income was estimated to increase to \$110,000 and the average household income grew to \$128,000. The distribution of incomes is not available for the 2016 estimated. These incomes are high relative to the average household income in the state as a whole which is \$83,920.

Employment

Employment in Erie is relatively low but has been growing rapidly. Between 2010 and 2014, employment grew from 1,535 to 2,258, which is an average annual increase of 181 jobs, or 10.1 percent per year, as shown in **Table 1**. Professional and Scientific Services, Health Care and Social Assistance, Construction, and Manufacturing jobs increased at the fastest rates during this time.

Table 1. Jobs in Erie by Industry, 2014

Description	2010	2014	2014 Pct. Of Total	2010-2014		
				Total	Ann. #	Ann. %
Construction	156	304	13%	148	37	18.2%
Professional, Scientific, and Technical Services	120	269	12%	149	37	22.4%
Public Administration	224	244	11%	20	5	2.2%
Manufacturing	118	236	10%	118	30	18.9%
Retail Trade	147	221	10%	74	19	10.7%
Health Care and Social Assistance	103	217	10%	114	29	20.5%
Administration & Support, Waste Management and Remediation	99	145	6%	46	12	10.0%
Wholesale Trade	151	141	6%	-10	-3	-1.7%
Accommodation and Food Services	151	117	5%	-34	-9	-6.2%
Other	266	364	16%	98	25	8.2%
Total	1,535	2,258	100%	723	181	10.1%

Source: LEHD; Economic & Planning Systems
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Many existing jobs are located in Downtown Erie and in the Four Corners area, as depicted by the concentration of jobs per square mile as shown in **Figure 4**. Erie Parkway, which is depicted by the solid red line in the center of the map, bisects the two largest employment areas in the Town. Due to the location and density of these areas, the intersection of County Line Road and Erie Parkway will continue to serve as a major point of travel for resident workers and commuters.

Figure 4. Jobs per Square Mile, 2014

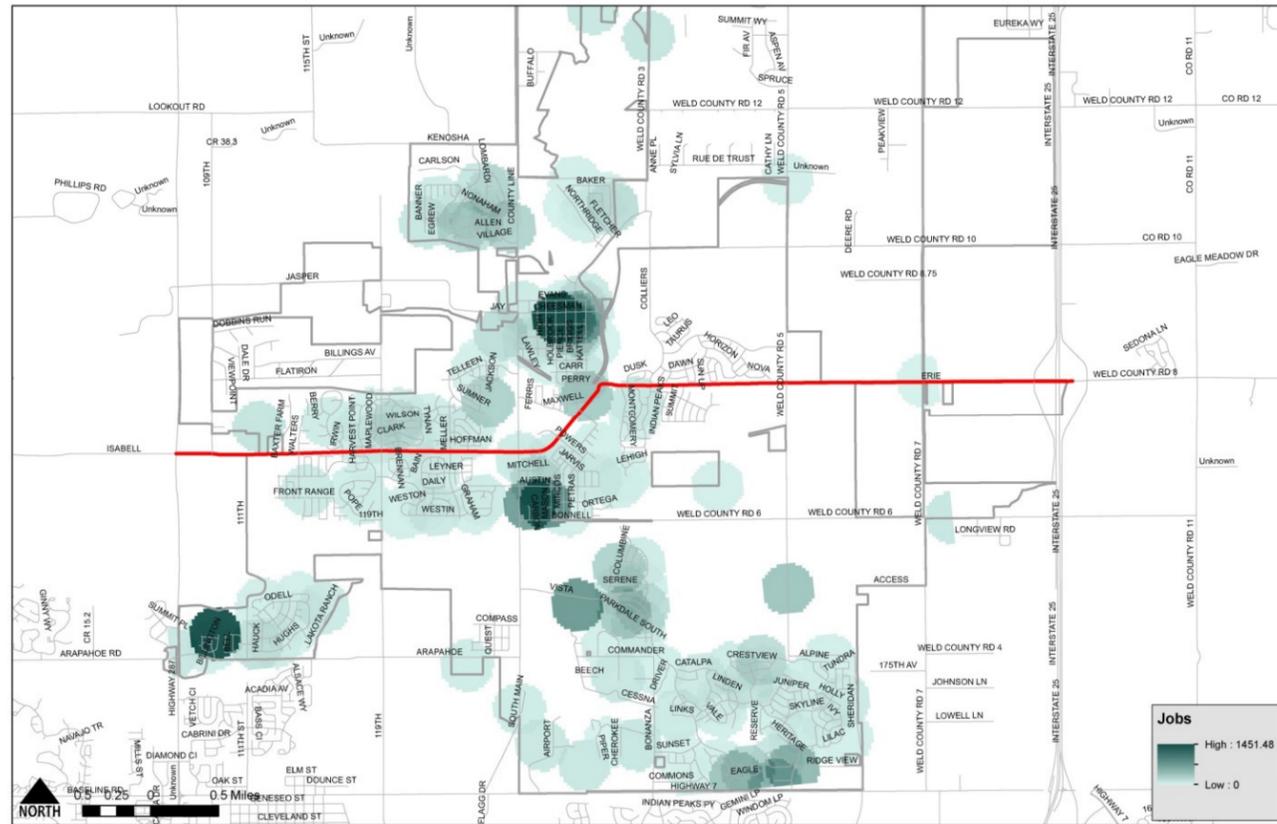
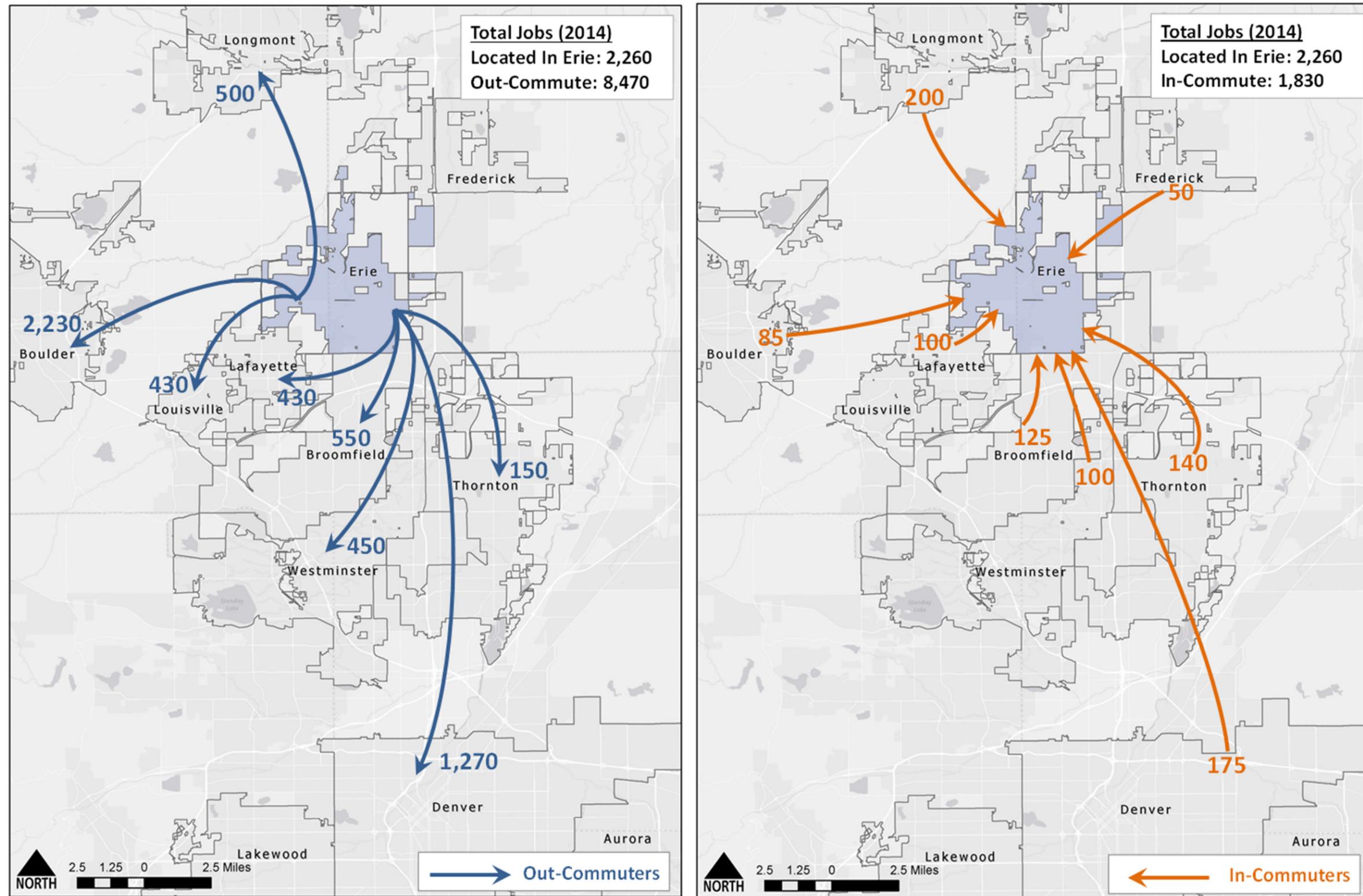


Figure 5 illustrates the in-commuting and out-commuting patterns to and from Erie. In 2014, there were 2,258 jobs located in Erie. Approximately 8,470 Erie residents commuted out of town to other locations for work. The largest destination was the City of Boulder with 2,230 residents travelling there for work or 27 percent of the out-commuters. The second most frequent destination was Denver with 1,270 out-commuters or 15 percent of the total.

Approximately 1,830 workers travel into Erie for work. These workers commuting to Erie primarily live in Longmont (200), Denver (175), Thornton (140), and Broomfield (125) as shown.

Despite the relatively robust job growth, Erie remains a largely bedroom community with a 0.31 jobs to household ratio. As such, the Town has planned for additional employment growth, primarily in the eastern portion of the Town adjacent to I-25 as discussed later in the report.

Figure 5. Commuting



3. Housing and Commercial Development

This chapter of the report chronicles residential and commercial development activity within the Town of Erie. Since the Great Recession, residential construction has largely recovered and several developments are planned and under construction along Erie Parkway and throughout town. Commercial development, particularly retail development, has increased to meet the demand of residents and commuters.

Residential Development

To date, the majority of growth in Erie has occurred within the last 15 years. Between 2000 and 2010, the number of housing units increased from 2,382 to 6,536, at an average of 415 units as shown in **Table 2**. In 2016, the total number of housing units increased to 7,525 which equates to an annual average of 231 units over the last six years. Owner-occupied units comprise 84.1 percent of all units and renter-occupied units comprise 12.8 percent. Approximately 3.1 percent of total units are vacant.

Table 2 Housing Units, 2000-2010

Description	2000	2010	2000-2010			2016	Pct. of Total
			Total	Ann. #	Ann. %		
Owner-Occupied	2,050	5,522	3,472	347	10.4%	6,330	84.1%
Renter-Occupied	242	737	495	50	11.8%	964	12.8%
Vacant	90	277	187	19	11.9%	231	3.1%
Total	2,382	6,536	4,154	415	10.6%	7,525	100.0%

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

H:\Data\163004-E&D.xlsx\T-Housing Units

Figure 6 shows the location and build-out status of planned residential developments close to Erie Parkway and therefore impacts traffic volume in the corridor. Canyon Creek, Colliers Hill, Meadow Sweet Farm, Summerfield, and Vista Ridge each contribute over 1,400 planned housing units and significantly impact the residential density along the Parkway.

Table 3 summarizes the activity occurring at developments initiated in 2000 or later. For the active residential communities listed, there are approximately 557 units remaining to be built. Currently, 342 units remain to be built or approved at Colliers Hill, 125 at the newly initiated Rex Ranch development, and 90 between the other new developments.

Table 3. New Projects (2000-2016)

Description	Planned Acres	Planned Dwelling Units	Built or Approved Units	Percent Built/Approved	Remaining Units	Percent Remaining
Andalusia	319	632	632	100%	0	0%
Bennett Annexation	10	4	4	100%	0	0%
Candlelight Estates	35	31	1	3%	30	97%
Colliers Hill (Daybreak/Bridgewater)	967	2,880	2,538	88%	342	12%
Erie Commons	400	770	770	100%	0	0%
Erie Corporate Center	616	400	400	100%	0	0%
Lost Creek Farm (Wiggett)	30	46	46	100%	0	0%
Morgan Hill	238	490	490	100%	0	0%
Redtail Ranch (Pratt II)	293	587	587	100%	0	0%
Rex Ranch	66	126	1	1%	125	99%
Richter	0	1	1	100%	0	0%
Summerfield	632	2,200	2,200	100%	0	0%
Sunset	156	265	265	100%	0	0%
Vista Pointe	320	360	355	99%	5	1%
Vista Ridge	897	2,494	2,439	98%	55	2%
Total	4,979	11,286	10,729	95%	557	5%

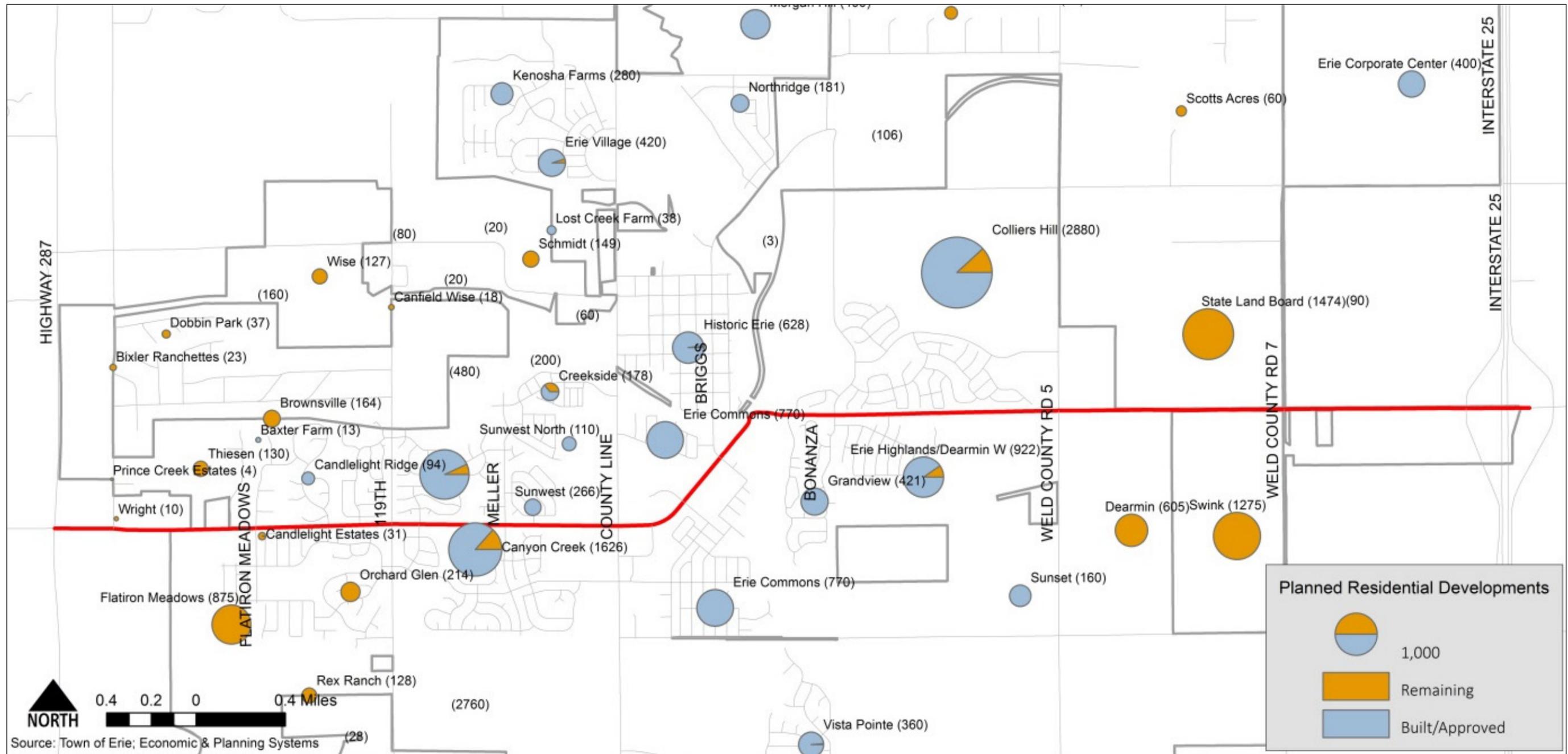
[1] YTD: July 2016

Source: Town of Erie; Economic & Planning Systems

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In addition to these recent developments, there are unbuilt units remaining in older communities. 217 units remain to be built or approved at Canyon Creek, 96 at Meadow Sweet Farm, 89 at Erie Highlands/Dearmin West. In total, including the new developments, there are about 959 units in the pipeline. The build-out of these remaining units and those currently under construction will impact the strength of the commercial opportunities along Erie Parkway in the near and long-term.

Figure 6. Planned Residential Development



Note: Numbers included in the labels correspond to the number of planned dwelling units in the development.

Retail Development

EPS has estimated supportable retail space based on the projected household growth in the Town of Erie and in the larger Erie regional trade area between 2015 and 2040. The analysis takes into account two types of future retail development that is expected to occur in the Town:

- **Neighborhood and Community Retail** - The first is neighborhood and community-serving retail, which is calculated based on the demand created by new Erie households. Much of this development is expected to occur in downtown Erie and in neighborhood shopping centers along Erie Parkway, close to the residential growth it is serving.
- **Regional Level Retail** - The second is regionally oriented retail development included in larger format stores and centers serving a larger regional trade area. This retail demand is calculated based on the projected growth in a regional trade area centered at the Erie Parkway and I-25 interchange, as this regional retail space is expected to locate in larger developments with regional access located north and south of this highway interchange.

Retail Store Categories

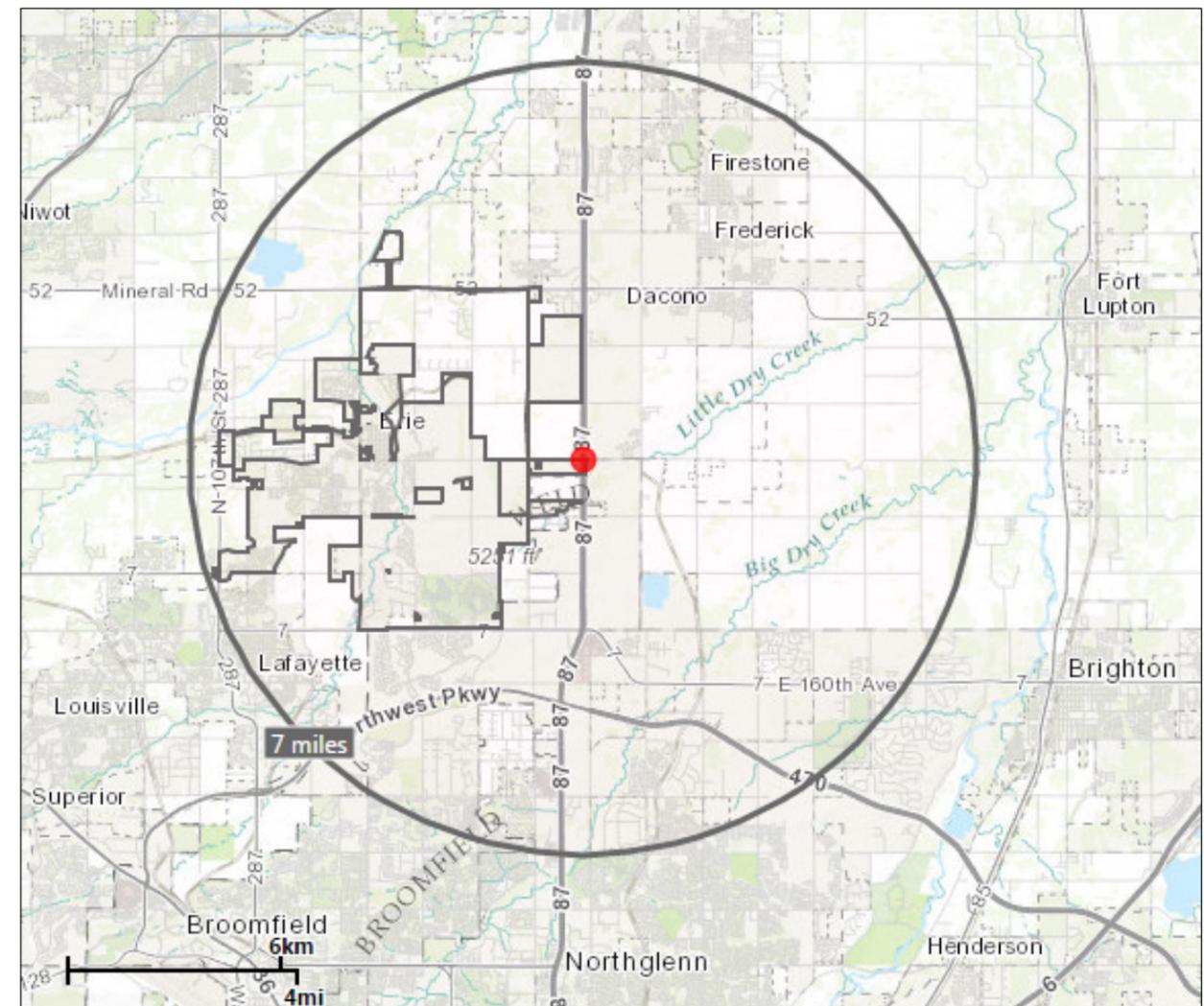
For purposes of analysis, retail stores are categorized based on shopping and trade area characteristics listed below. Each is described with examples to clarify the types of retail stores included in the categories.

- **Convenience Goods** – This category includes supermarkets and other grocery stores, convenience stores, as well as liquor, drug, other specialty food stores, and coffee shops. In addition, this category includes convenience services such as laundry, mail, hair/barber, and copies. These stores generally sell frequently purchased, low cost items with little product differentiation. The primary locations for convenience goods stores are the supermarket-anchored neighborhood shopping centers and smaller convenience centers, as these items are most often bought close to home.
- **Shoppers’ Goods** – This category includes general merchandise, apparel, furniture, appliance, and specialty goods stores. General merchandise stores include traditional department stores (such as Macy’s and JCPenney) as well as discount department stores (Walmart and Target). The product lines of these stores are generally more expensive, less frequently purchased items. In general, people are more likely to comparison shop for Shoppers’ Goods and are often more willing to travel farther to buy them. The primary locations for regional Shoppers’ Goods are traditional downtown shopping districts, regional shopping centers, free-standing discount department and membership warehouse stores, and power centers dominated by mass merchandise tenants.
- **Eating and Drinking Establishments** – This category covers restaurants including conventional sit-down and fast food, and bars. Businesses in this category exhibit some of the characteristics of convenience stores in that many restaurant expenditures are made at establishments close to home and on a frequent basis. However, some higher quality restaurants, unique in the marketplace, can have a regional draw.
- **Building Materials/Nurseries** – This category is made up of stores selling lumber, paint, glass, hardware, plants and garden supplies, and other retail items related to home improvement. Home improvement centers such as Home Depot and Lowe’s are the largest stores in this category.

Retail Trade Areas

A retail trade area is the area from which a retail store or center derives the majority of its sales. A neighborhood and community trade area generally ranges from a two to three-mile radius depending on the density of development and competitive store pattern. For purposes of this study the Community Trade Area is defined as the boundary of the Town of Erie. A regional trade area can range from 5 to 10 miles, again depending on the density of development and existing development patterns. The Erie Regional Trade Area is shown as a 7-mile radius around the I-25 and Erie Parkway interchange as shown on Figure 7.

Figure 7. Community and Regional Trade Areas



Retail demand is a factor of household and income growth in the trade area and the percent of income spent in retail stores. The Community Trade Area defined as the Town of Erie is anticipated to grow by about 12,476 households over the 2015 to 2040 time period or an average of 500 households per year which equates to a 3.1 annual growth rate. The trade area total personal income (TPI) is calculated by multiplying the total number of households by average

household income. The Community Trade Area TPI is estimated to growth by \$1.3 billion from \$1.2 billion in 2015 to \$2.6 billion in 2040 as shown in Table 4.

Table 4. Total Personal Income, Town of Erie and 7-Mile Trade Area, 2015-2040

Total Personal Income	2015	2040	New New	Ann. Growth
Town of Erie				
Households	10,897	23,373	12,476	3.1%
Average Household Income (2010 Census)	\$111,000	\$111,000	N/A	N/A
Total Personal Income (TPI)	\$1,209,567,000	\$2,594,403,000	\$1,384,836,000	3.1%
Erie Parkway/I-25 (7 miles)				
Households	30,176	83,473	53,297	4.2%
Average Household Income	\$111,488	\$111,488	N/A	N/A
Total Personal Income	\$3,364,261,888	\$9,306,192,984	\$5,941,931,096	4.2%

Source: US Census of Retail Trade; Economic & Planning Systems

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The Erie Regional Trade area is estimated to grow by 53,297 households over the same time period and its TPI is estimated to grow by \$5.9 billion from \$3.4 billion in 2015 to \$9.3 billion in 2040 as shown.

Community Trade Area Retail Demand

Based on gross annual sales data from the U.S. Census of Retail Trade, the average Colorado household spends 35.1 percent of their income on retail goods (excluding automobile related sales). The estimated growth of \$1.4 billion in TPI in the community trade area will generate an an additional \$486.2 million in retail stores over the next 25 years as shown by retail store category in Table 5.

Table 5. Retail Sales, Town of Erie Community Trade Area, 2015-2040

Store Type	Percent of TPI	Town of Erie		
		Gross Retail Sales (2015) (\$000s)	Gross Retail Sales (2040) (\$000s)	Change (2015-2040) (\$000s)
Town of Erie, TPI	100.0%	\$1,209,567	\$2,594,403	\$1,384,836
Convenience Goods				
Supermarkets and Specialty Grocery Stores	6.9%	\$83,692	\$179,512	\$95,820
Convenience Stores (incl. Gas Stations)	2.0%	\$23,941	\$51,350	\$27,410
Beer, Wine, & Liquor Stores	1.1%	\$13,024	\$27,935	\$14,911
Health and Personal Care	1.7%	\$20,146	\$43,212	\$23,066
Total Convenience Goods	11.6%	\$140,803	\$302,009	\$161,206
Shoppers' Goods				
General Merchandise				
Traditional Department Stores	0.5%	\$6,134	\$13,158	\$7,023
Discount Department Stores & Other	1.3%	\$15,453	\$33,146	\$17,693
Warehouse clubs & supercenters ¹	5.4%	\$65,097	\$139,627	\$74,530
Subtotal	7.2%	\$86,685	\$185,930	\$99,245
Other Shoppers' Goods				
Clothing & Accessories	2.2%	\$26,039	\$55,852	\$29,813
Furniture & Home Furnishings	1.2%	\$14,249	\$30,563	\$16,314
Electronics & Appliances	1.1%	\$12,900	\$27,668	\$14,769
Sporting Goods, Hobby, Book, & Music Stores	1.3%	\$15,252	\$32,713	\$17,462
Miscellaneous Retail	1.3%	\$15,609	\$33,480	\$17,871
Subtotal	6.9%	\$84,049	\$180,277	\$96,228
Total Shoppers' Goods	14.1%	\$170,734	\$366,207	\$195,473
Eating and Drinking	6.1%	\$73,658	\$157,990	\$84,332
Building Material & Garden				
Home Centers	1.6%	\$19,177	\$41,134	\$21,956
Hardware, Paint and Wallpaper Stores	0.3%	\$4,211	\$9,032	\$4,821
Other Building Material Dealers	0.9%	\$11,288	\$24,212	\$12,924
Lawn & Garden Equipment	0.4%	\$4,820	\$10,338	\$5,518
Total Building Material & Garden	3.3%	\$39,496	\$84,716	\$45,219
Total Retail Goods	35.1%	\$424,691	\$910,922	\$486,230

¹Home Centers and Paint and Wallpaper Stores were not disclosed. Estimated by subtracting known values from Building Materials and Supplies Dealers

Source: US Census of Retail Trade, Economic & Planning Systems

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Table 6 shows potential new neighborhood and community level retail space that supports projected household growth in the Town of Erie. Aside from the downtown Main Street area, the primary format for community serving retail is the neighborhood shopping center. These centers are most often anchored by a supermarket and include ancillary space largely occupied by other convenience goods stores and restaurants. EPS has estimated that 100 percent of the Convenience Goods store demand and 50 percent of the demand for other store categories (Shoppers Goods, Eating and Drinking and Building Materials and Garden) will be captured by neighborhood and community centers within the Town as shown.

Table 6. Potential Gross New Retail Space, Neighborhood and Community Retail, 2015-2040

Store Type	Avg. Sales Per Sq. Ft.	Potential New Sq. Ft. (2015-2040)		
		Town of Erie 12,476 New HHs	N&C Retail	Neighborhood and Community
Convenience Goods				
Supermarkets & Specialty Food Stores	\$400	240,000	100%	240,000
Convenience Stores (incl. Gas Stations)	\$400	69,000	100%	69,000
Beer, Wine, & Liquor Stores	\$300	50,000	100%	50,000
Health and Personal Care	\$400	58,000	100%	58,000
Total Convenience Goods		417,000		417,000
Shoppers' Goods				
General Merchandise				
Traditional Department Stores	\$250	28,000	50%	14,000
Discount Department Stores	\$350	51,000	50%	25,500
Warehouse Clubs & Supercenters	\$500	149,000	50%	74,500
Subtotal		228,000		114,000
Other Shoppers' Goods				
Clothing & Accessories	\$350	85,000	50%	42,500
Furniture & Home Furnishings	\$250	65,000	50%	32,500
Electronics & Appliances	\$500	30,000	50%	15,000
Sporting Goods, Hobby, Book, & Music Stores	\$350	50,000	50%	25,000
Miscellaneous Retail	\$250	71,000	50%	35,500
Subtotal		301,000		150,500
Total Shoppers' Goods		529,000		264,500
Eating and Drinking	\$350	241,000	50%	120,500
Building Material & Garden	\$300	151,000	50%	75,500
Total Retail Goods		1,338,000		877,500

Source: Economic & Planning Systems

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The forecasted growth of \$95.8 million in grocery store sales would potentially support up to an additional 240,000 square feet of grocery store space (not accounting for additional capture by existing stores). And at an average size of 60,000 square feet, up to four additional supermarkets could be built. It is likely however that some of this grocery demand may be captured by supercenters (such as Walmart) or warehouse stores (such as Costco), as well as by specialty and natural foods stores (e.g., Whole Foods and Sprouts). As a result, it is more likely that the next 20 years would generate demand for two to three supermarket anchored neighborhood shopping centers.

King Soopers is reportedly considering a new store in the Four Corners development at Erie Parkway and County Line Road. A neighborhood commercial center is also planned on the east side of the Town at Erie Parkway and County Road 5 which would be likely to develop at a later date when there is a greater amount of residential development completed in the nearby subdivisions.

Regional Trade Area Retail Demand

Retail demand for the Erie 7-Mile Regional Trade Area was estimated using the same methodology. The estimated growth of \$5.9 billion in TPI in the Regional Trade Area will generate an additional \$2.1 billion in retail stores sales over the next 25 years as shown by retail store category in Table 7.

Table 7. Retail Sales, Town of Erie and 7-Mile Regional Trade Area, 2015-2040

Store Type	Percent of TPI	Erie Parkway/I-25 (7 miles)		
		Gross Retail Sales (2015) (\$000s)	Gross Retail Sales (2040) (\$000s)	Change (2015-2040) (\$000s)
Town of Erie, TPI	100.0%	\$3,364,262	\$9,306,193	\$5,941,931
Convenience Goods				
Supermarkets and Specialty Grocery Stores	6.9%	\$232,780	\$643,915	\$411,135
Convenience Stores (incl. Gas Stations)	2.0%	\$66,588	\$184,195	\$117,607
Beer, Wine, & Liquor Stores	1.1%	\$36,224	\$100,202	\$63,978
Health and Personal Care	1.7%	\$56,035	\$155,003	\$98,968
Total Convenience Goods	11.6%	\$391,627	\$1,083,314	\$691,688
Shoppers' Goods				
General Merchandise				
Traditional Department Stores	0.5%	\$17,062	\$47,197	\$30,135
Discount Department Stores & Other	1.3%	\$42,981	\$118,895	\$75,913
Warehouse clubs & supercenters ¹	5.4%	\$181,059	\$500,845	\$319,785
Subtotal	7.2%	\$241,103	\$666,936	\$425,833
Other Shoppers' Goods				
Clothing & Accessories	2.2%	\$72,425	\$200,343	\$127,917
Furniture & Home Furnishings	1.2%	\$39,632	\$109,630	\$69,998
Electronics & Appliances	1.1%	\$35,879	\$99,247	\$63,368
Sporting Goods, Hobby, Book, & Music Stores	1.3%	\$42,421	\$117,344	\$74,923
Miscellaneous Retail	1.3%	\$43,415	\$120,094	\$76,679
Subtotal	6.9%	\$233,772	\$646,657	\$412,886
Total Shoppers' Goods	14.1%	\$474,874	\$1,313,594	\$838,719
Eating and Drinking	6.1%	\$204,872	\$566,715	\$361,843
Building Material & Garden				
Home Centers	1.6%	\$53,340	\$147,548	\$94,208
Hardware, Paint and Wallpaper Stores	0.3%	\$11,712	\$32,398	\$20,686
Other Building Material Dealers	0.9%	\$31,397	\$86,849	\$55,452
Lawn & Garden Equipment	0.4%	\$13,406	\$37,083	\$23,677
Total Building Material & Garden	3.3%	\$109,854	\$303,877	\$194,023
Total Retail Goods	35.1%	\$1,181,227	\$3,267,500	\$2,086,273

¹Home Centers and Paint and Wallpaper Stores were not disclosed. Estimated by subtracting known values from Building Materials and Supplies Dealers

Source: US Census of Retail Trade, Economic & Planning Systems

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Table 8 shows potential new regional level retail space that supports projected household growth in the seven-mile regional trade area. Between 2015 and 2040, approximately 1.9 million square feet of new retail is estimated to be supportable in the trade area. This assumes that the regional centers built along the I-25 corridor and other major regional corridors will absorb 50 percent of Shoppers' Goods, Building Materials, and Eating and Drinking space as shown.

Table 8. Erie Regional Retail Space Forecast, 2015-2040

Store Type	Avg. Sales Per Sq. Ft.	Potential New Sq. Ft. (2015-2040)		
		Erie Parkway/I-25 (7 miles) \$53,297	Regional Retail	Regional
Convenience Goods				
Supermarkets & Specialty Food Stores	\$400	1,028,000	0%	0
Convenience Stores (incl. Gas Stations)	\$400	294,000	0%	0
Beer, Wine, & Liquor Stores	\$300	213,000	0%	0
Health and Personal Care	\$400	247,000	0%	0
Total Convenience Goods		1,782,000		0
Shoppers' Goods				
General Merchandise				
Traditional Department Stores	\$250	121,000	50%	60,500
Discount Department Stores	\$350	217,000	50%	108,500
Warehouse Clubs & Supercenters	\$500	640,000	50%	320,000
Subtotal		978,000		489,000
Other Shoppers' Goods				
Clothing & Accessories	\$350	365,000	50%	182,500
Furniture & Home Furnishings	\$250	280,000	50%	140,000
Electronics & Appliances	\$500	127,000	50%	63,500
Sporting Goods, Hobby, Book, & Music Stores	\$350	214,000	50%	107,000
Miscellaneous Retail	\$250	307,000	50%	153,500
Subtotal		1,293,000		646,500
Total Shoppers' Goods		2,271,000		1,135,500
Eating and Drinking	\$350	1,034,000	50%	517,000
Building Material & Garden	\$300	647,000	50%	323,500
Total Retail Goods		5,734,000		1,976,000

Source: Economic & Planning Systems

H:\163004-Erie Parkway Corridor Study\Models\163004-TPI Analysis.xlsx\T-Supp. Sq. Ft.-TRADEAREA

Regional Retail Supply

The Town of Erie is situated along the north I-25 corridor, which has been the most active area for new regional retail space. Over the last 10 years, there has been nearly three million square feet of new space built between 136th Avenue and Highway 7, as shown in **Table 9**.

Table 9. North I-25 Regional Retail Projects, 2005-2015

Center	Type	Year Completed	City	Sq. Ft.	Anchor Tenants
Orchard Town Center	Lifestyle Center	2012	Westminster	1,141,046	JC Penney, REI, Target, Staples, Macy's
Larkridge	Power Center	2006	Thornton	750,000	Costco, Sears, Dick's, Home Depot, Petsmart
The Grove	Power Center	2015	Thornton	222,000	Cabela's, Hobby Lobby, La-Z-Boy
Walmart Supercenter	Community Center	2006	Westminster	197,873	Walmart
Westminster Crossings	Community Center	2005	Westminster	152,967	Lowe's
Simon Outlet Center	Outlet Mall	2017	Thornton	350,000	Ann Taylor, Saks Fifth Avenue

Source: CoStar; Economic & Planning Systems

H:\153017-Broomfield Retail Study\153017-Shopping Center Performance.xlsx\125C07_New

There is still a large amount of unbuilt capacity in these existing centers and therefore regional retail development in the near future is expected to continue to be focused on this segment and particularly the Highway 7 and I-25 interchange, which is located three miles to the south of the Erie Parkway interchange. In fact, the Swedish furniture superstore IKEA recently announced the planned development of a second Denver area location at Highway 7 and I-25.

This area is expected to develop before retail development jumps north to Erie because there is a large amount of regional space planned that is closer to the metro area's projected growth. As such, Erie's regional retail opportunities are expected to be 10 or more years into the future.

Only a portion of the regional retail space demand in the seven-mile trade area will locate in Erie. Assuming a capture rate of 50 percent of this demand, approximately 988,000 square feet would be supportable in the Town, as shown in **Table 10**. Most of this space would be accommodated in the more regionally oriented developments close to Interstate 25 in TAZs 2749, 2750, and 2760.

Specifically, Erie Ventures on the northwest corner of the interchange has 103.5 acres designated for regional retail uses. One mile to the north, Erie Corporate Center has 81.5 acres designated for regional retail and 106.9 acres for community retail space. Also to the south of the interchange in TAZ 2760 is a 480-acre mixed use development planned to include approximately 100 acres of retail uses. At a typical suburban density of 0.25 floor area ratio, these projects could accommodate more than three million square feet of retail space.

Table 10. Potential Capture of Regional Space, 2015-2040

Store Type	Potential New Sq. Ft. (2015-2040)		
	Regional-Serving Retail	Trade Area Capture	Capture of Trade Area Regional Retail
Convenience Goods			
Supermarkets & Specialty Food Stores	0	50%	0
Convenience Stores (incl. Gas Stations)	0	50%	0
Beer, Wine, & Liquor Stores	0	50%	0
Health and Personal Care	0	50%	0
Total Convenience Goods	0		0
Shoppers' Goods			
General Merchandise			
Traditional Department Stores	60,500	50%	30,250
Discount Department Stores	108,500	50%	54,250
Warehouse Clubs & Supercenters	320,000	50%	160,000
Subtotal	489,000		244,500
Other Shoppers' Goods			
Clothing & Accessories	182,500	50%	91,250
Furniture & Home Furnishings	140,000	50%	70,000
Electronics & Appliances	63,500	50%	31,750
Sporting Goods, Hobby, Book, & Music Stores	107,000	50%	53,500
Miscellaneous Retail	153,500	50%	76,750
Subtotal	646,500		323,250
Total Shopper's Goods	1,135,500		567,750
Eating and Drinking	517,000	50%	258,500
Building Material & Garden	323,500	50%	161,750
Total Retail Goods	1,976,000		988,000

Source: Economic & Planning Systems

H:\163004-Erie Parkway Corridor Study\Models\163004-TPI Analysis.xlsx\T-Reg

4. Employment Forecasts

This section of the report compares the DRCOG employment estimates by TAZ (with Town of Erie adjustments) to the employment demand estimated by the market analysis development forecasts.

Retail Employment

Cumulatively, Erie can be expected to absorb 1.86 million square feet of retail space between 2015 and 2040, as shown in **Table 11**. Approximately 877,000 square feet of space is supporting the growth of Erie’s residential population while an additional 988,000 square feet is estimated to be supportable at regional centers serving the larger 7-Mile trade area.

Using a factor of 1 employee per 500 square feet of space, this estimate would require approximately 3,731 retail employees. This is less than one-half of the 8,703 retail employees shown in the DRCOG TAZ forecasts for Erie. Specifically, the regional retail estimates for TAZs 2749, 2750 and 2760 are likely to be buildout numbers that will occur after 2040. These three TAZs have 4,444 projected retail jobs that is more than double the 1,976 regional center jobs estimated in the demand based forecast.

Table 11. Total Potential New Retail Space, Town of Erie, 2015-2040

Store Type	Potential New Sq. Ft. (2015-2040)		
	Town of Erie Community and Regional Retail	Capture of Trade Area Regional Retail @ 50%	Town of Erie Total
Convenience Goods			
Supermarkets & Specialty Food Stores	240,000	0	240,000
Convenience Stores (incl. Gas Stations)	69,000	0	69,000
Beer, Wine, & Liquor Stores	50,000	0	50,000
Health and Personal Care	<u>58,000</u>	<u>0</u>	<u>58,000</u>
Total Convenience Goods	417,000	0	417,000
Shoppers' Goods			
General Merchandise			
Traditional Department Stores	14,000	30,250	44,250
Discount Department Stores	25,500	54,250	79,750
Warehouse Clubs & Supercenters	<u>74,500</u>	<u>160,000</u>	<u>234,500</u>
Subtotal	114,000	244,500	358,500
Other Shoppers' Goods			
Clothing & Accessories	42,500	91,250	133,750
Furniture & Home Furnishings	32,500	70,000	102,500
Electronics & Appliances	15,000	31,750	46,750
Sporting Goods, Hobby, Book, & Music Stores	25,000	53,500	78,500
Miscellaneous Retail	<u>35,500</u>	<u>76,750</u>	<u>112,250</u>
Subtotal	150,500	323,250	473,750
Total Shoppers' Goods	264,500	567,750	832,250
Eating and Drinking	120,500	258,500	379,000
Building Material & Garden	75,500	161,750	237,250
Total Retail Goods	877,500	988,000	1,865,500
Employees (TPI Forecast Net 2015-2040)	1,755	1,976	3,731
Employees (TAZ Forecast Net 2015-2040)			8,703

Source: Economic & Planning Systems

H:\163004- Erie Parkway Corridor Study\Models\163004- TPIAnalysis.xlsx]T- Total

Service Employment

Service Employment includes all other employment not classified as Retail or Production/ Distribution. As such, the category includes mostly office-based uses such as professional and technical services, but also education, health care, lodging, and government. This is the largest employment category with the greatest amount of employment growth forecasted. There are currently 2,297 Service employees in Erie, which is shown as increasing to 22,238 in 2040, which means an increase of 19,311 or 772 per year. Similar to Retail employment, the locations with the greatest amount of Service employment forecasts are TAZs 2749, 2750, and 2760, which are adjacent to I-25 north and south of the Erie Parkway interchange. Currently there are zero (0) Service employees shown in 2749 and 2750, and 19 employees in 2760. The net increase shown for 2040 in these three zones is 15,706 employees or 81 percent of the 25-year growth estimate for the Town as a whole.

At 300 square feet per employee, the forecasted employment growth would translate to the development of 4.7 million square feet of business/office space or an annual average of 188,000 square feet over the 2015 to 2040 time period. The 4.7 million square feet is equal to approximately 25 percent of the 20.6 million square feet of existing office space in the northern portion of Metro Denver (Northwest Denver, Northeast Denver, and Broomfield) and to 70 percent of all space built over the last 16 years (6.9 million square feet), as shown in Table 12.

Table 12. North Metro Office Inventory, 2000-2016

Description	2000	2016	2000-2016		
			Total	Ann. #	Ann. %
North Denver	2,690,490	4,672,999	1,982,509	123,907	3.5%
Northwest Denver	6,760,692	9,421,235	2,660,543	166,284	2.1%
Broomfield	4,265,291	6,496,635	2,231,344	139,459	2.7%
Total	13,716,473	20,590,869	6,874,396	429,650	2.6%

Source: CoStar: Economic & Planning Systems

H:\163004-Erie Parkway Corridor Study\Data\CoStar\163004-Office Inventory.xlsx\Inventory 00-16

Erie Service space growth is expected to occur primarily in three major mixed use developments; Erie Ventures and Erie Corporate Center located north of the interchange and the Swink mixed use development located south of the interchange. These projects are well located and can expect to be developed for their intended uses in the future. However, similar to the retail development projected above, major professional office or R&D development is expected to lag development similar employment uses proposed between the I-25 and E-470 interchange and the I-25 and Highway 7 interchange located three miles to the south of Erie Parkway.

It is difficult to accurately predict when these projects might be started. Much of this land, although in the Town's planning area, is still unincorporated and lacks adequate infrastructure to initiate development. Town staff estimates that they will begin development in the 5 to 10 year time horizon. Based on this assumption, it is estimated one of these projects starting in five years and the other two in 10 years, as shown in Table 13. Assuming average annual absorption of 50,000 square feet per year for each project (150,000 square feet per year for this general location), these projects would result in approximately 2.5 million square feet of space by 2040. This is a relatively aggressive capture rate given past development trends, but provides a reasonable estimate for purposes of estimating traffic volumes.

Table 13. Erie Major Office Developments

Development	Service Emp. Acreage	Sq. Ft. @ .3 FAR	Start Date	Avg. Ann. Development	2040 Space	Employment
Erie Corporate Center	194	2,530,000	2020	50,000	1,000,000	3,333
Erie Ventures	151	1,970,000	2025	50,000	750,000	2,500
Swink	200	2,600,000	2025	50,000	750,000	2,500
Total	545	7,100,000		150,000	2,500,000	8,333

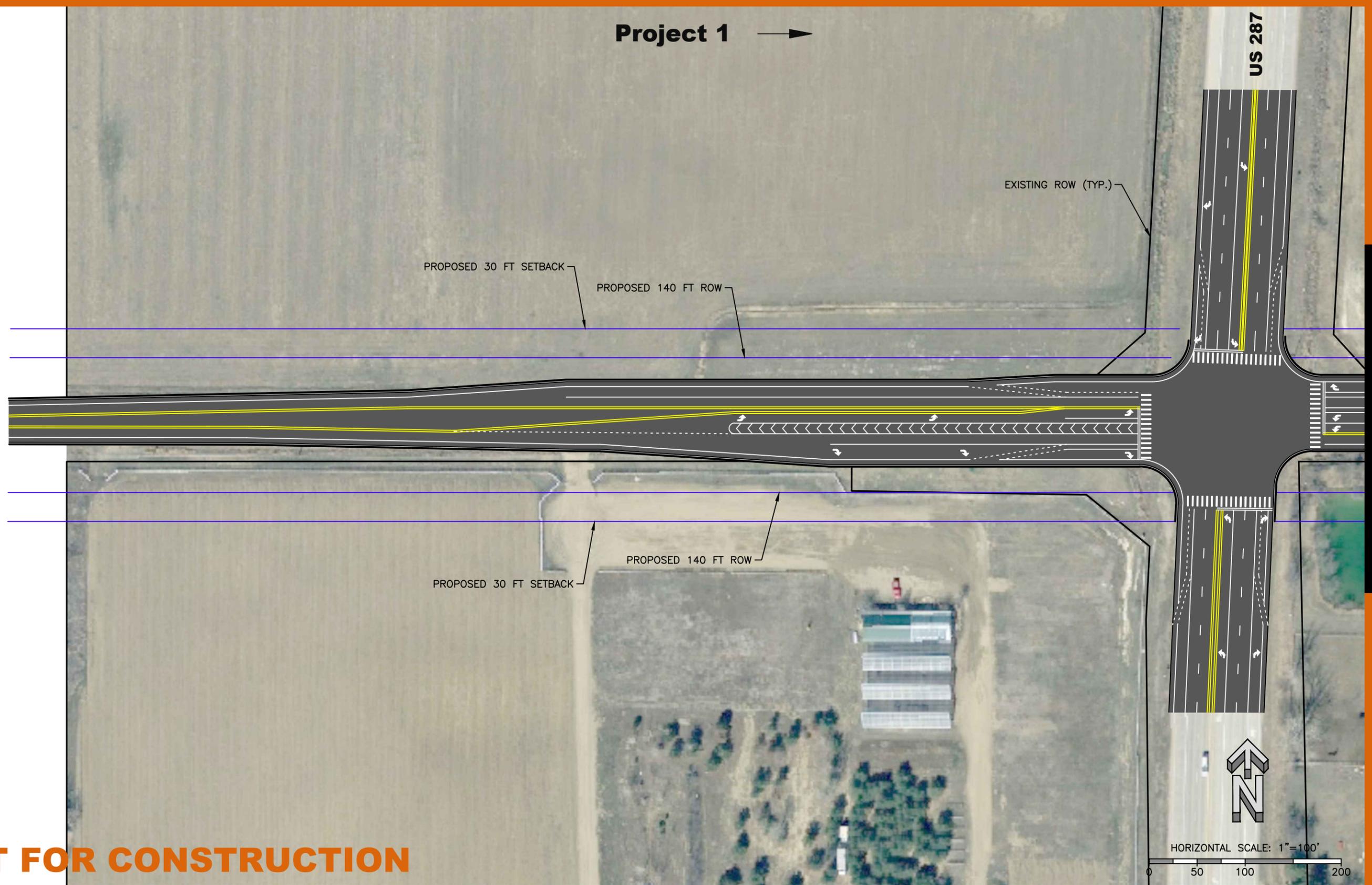
Source: CoStar: Economic & Planning Systems

H:\163004-Erie Parkway Corridor Study\Data\CoStar\163004-Office Inventory.xlsx\Maj Dev

These estimates would result in a total of 8,333 Service employees for the three TAZs, which is a little less than half of the 15,706 Service employees shown in the unadjusted 2040 figures. The distribution of employees by TAZ is 2,500 in 2749, 3,333 in 2750, and 2,500 in 2760.

Appendix D. Conceptual Design

Project 1 →



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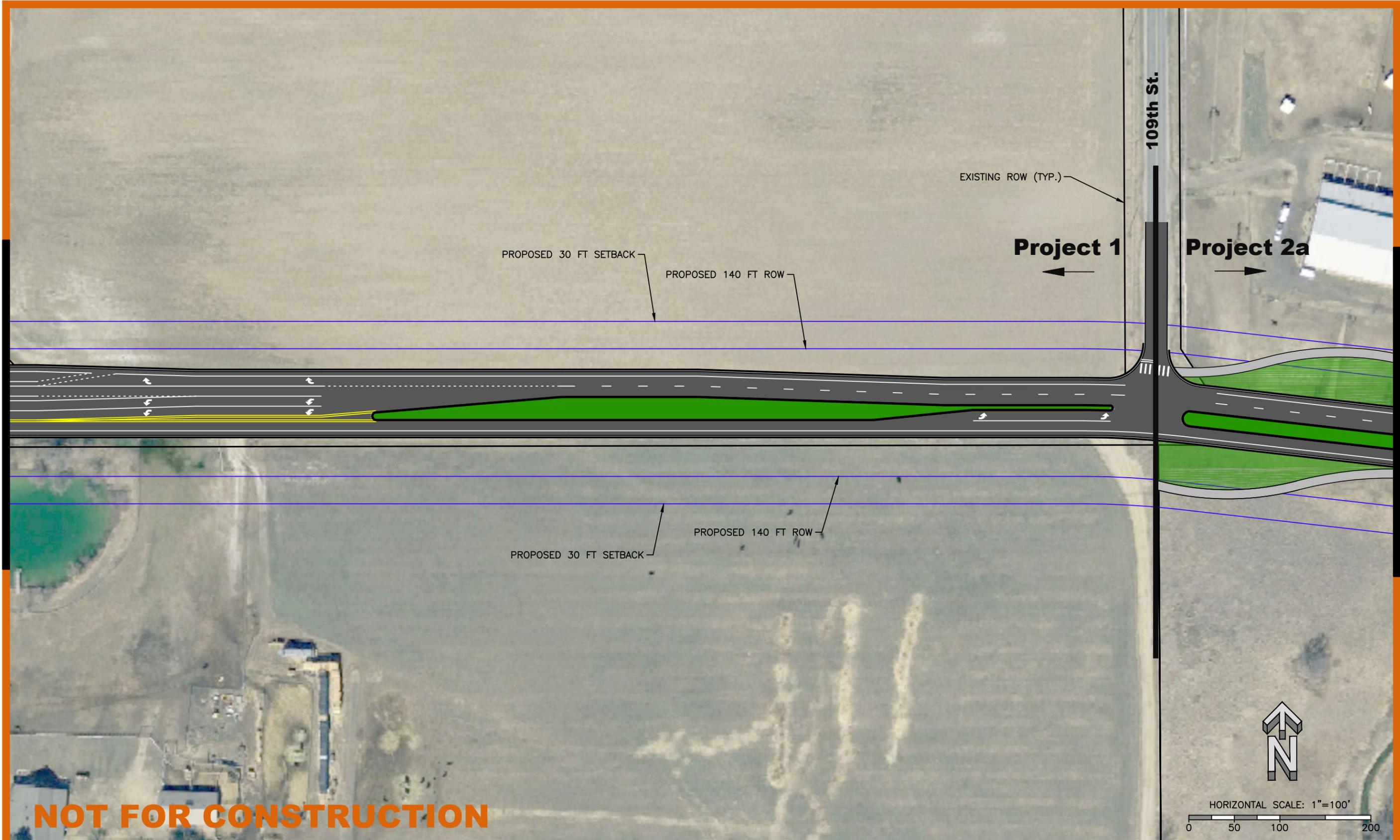
August 2017

NOT FOR CONSTRUCTION

HORIZONTAL SCALE: 1"=100'
0 50 100 200

August 2017

MATCHLINE A



NOT FOR CONSTRUCTION

August 2017

MATCHLINE B

MATCHLINE C

August 2017

← **Project 2a** →

PROPOSED 30 FT SETBACK

PROPOSED 140 FT ROW

PIPED DRAINAGE ON NORTH SIDE OF ERIE PARKWAY BETWEEN CULVERTS

EXISTING ROW (TYP.)

PROPOSED 140 FT ROW

CULVERT EXTENSION FOR ULTIMATE 4 LANE SECTION

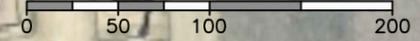
CULVERT EXTENSION FOR ULTIMATE 4 LANE SECTION

PROPOSED 30 FT SETBACK

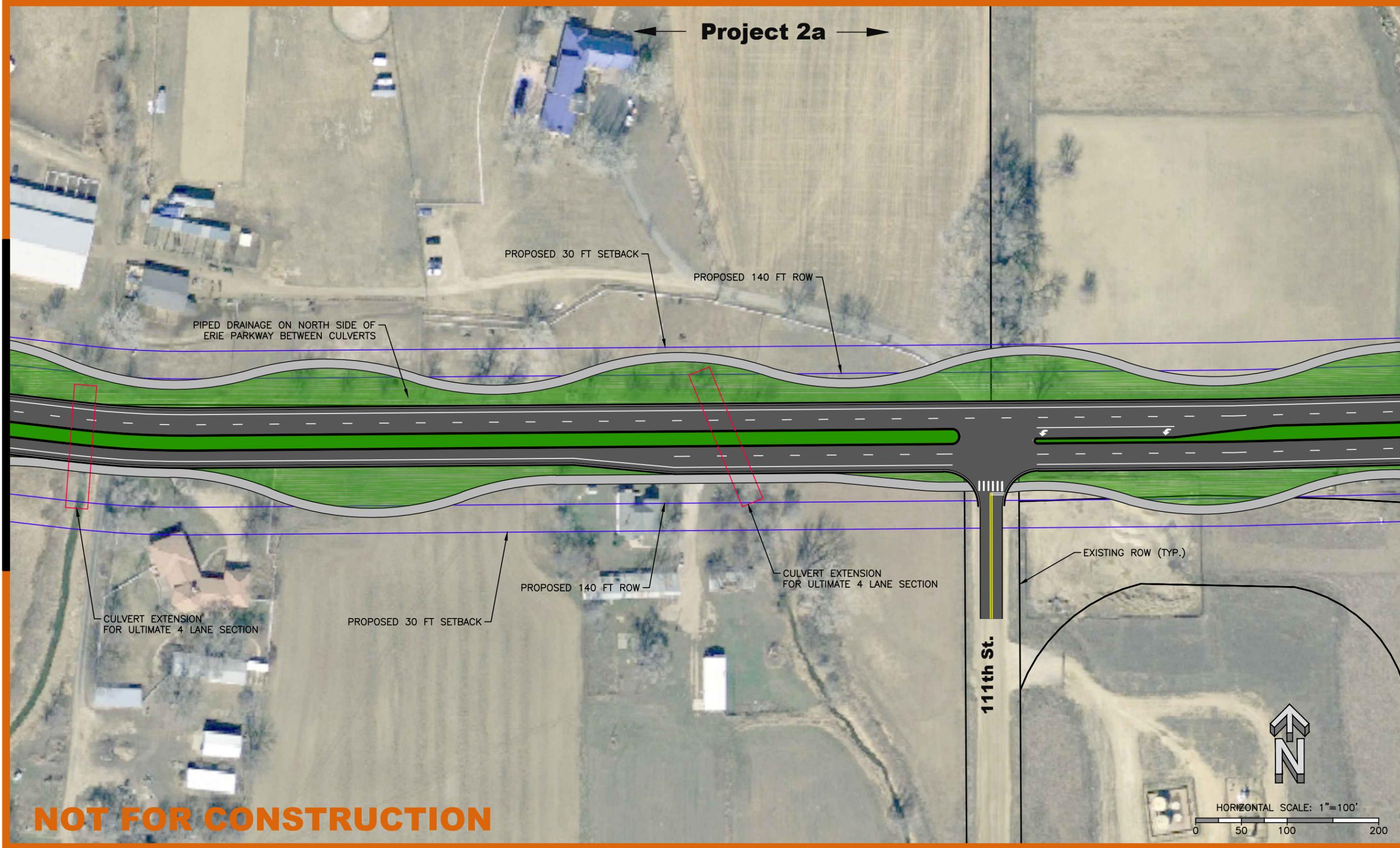
111th St.



HORIZONTAL SCALE: 1"=100'

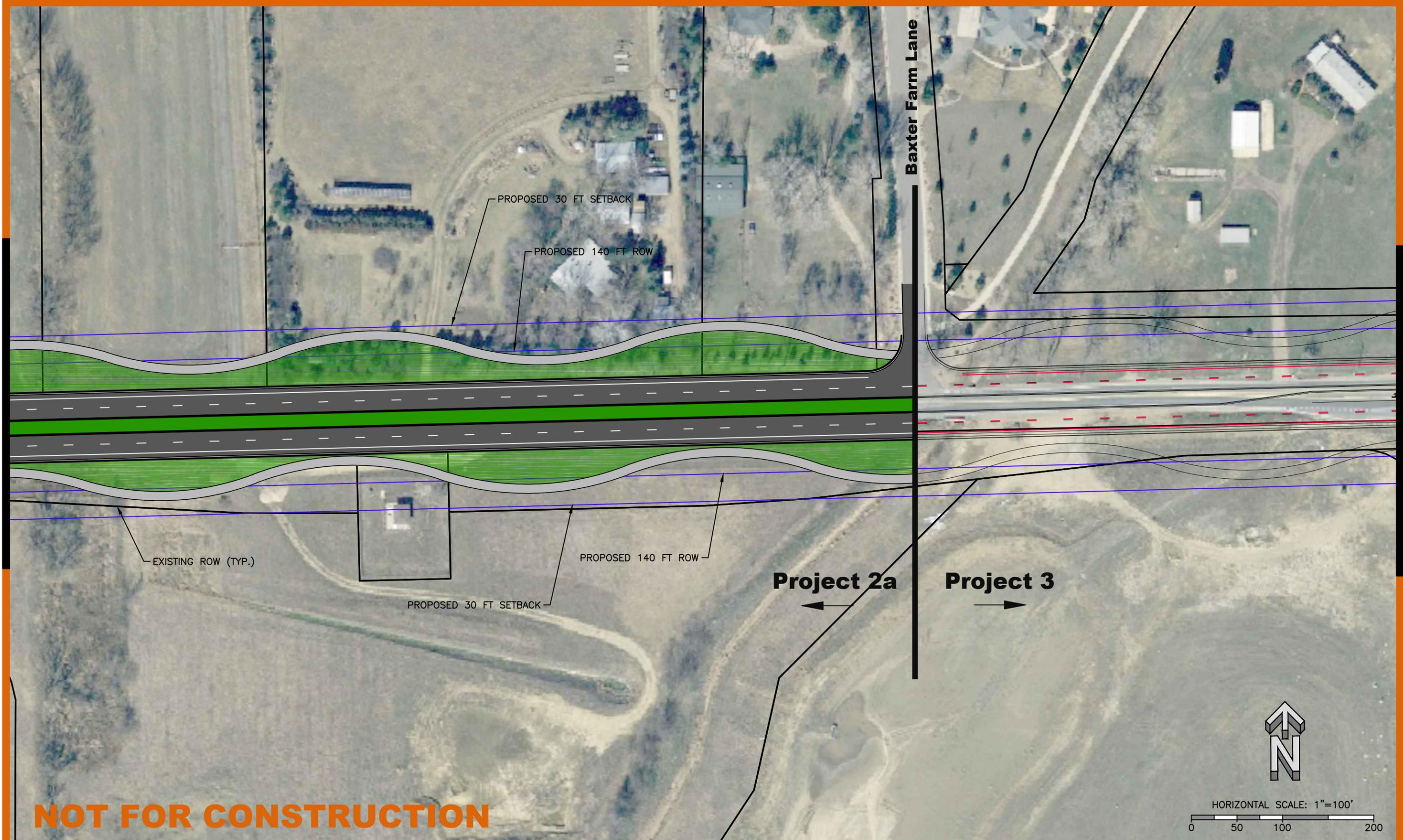


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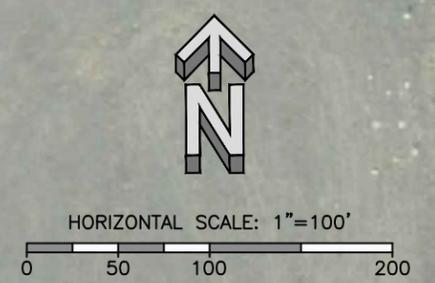
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MATCHLINE D

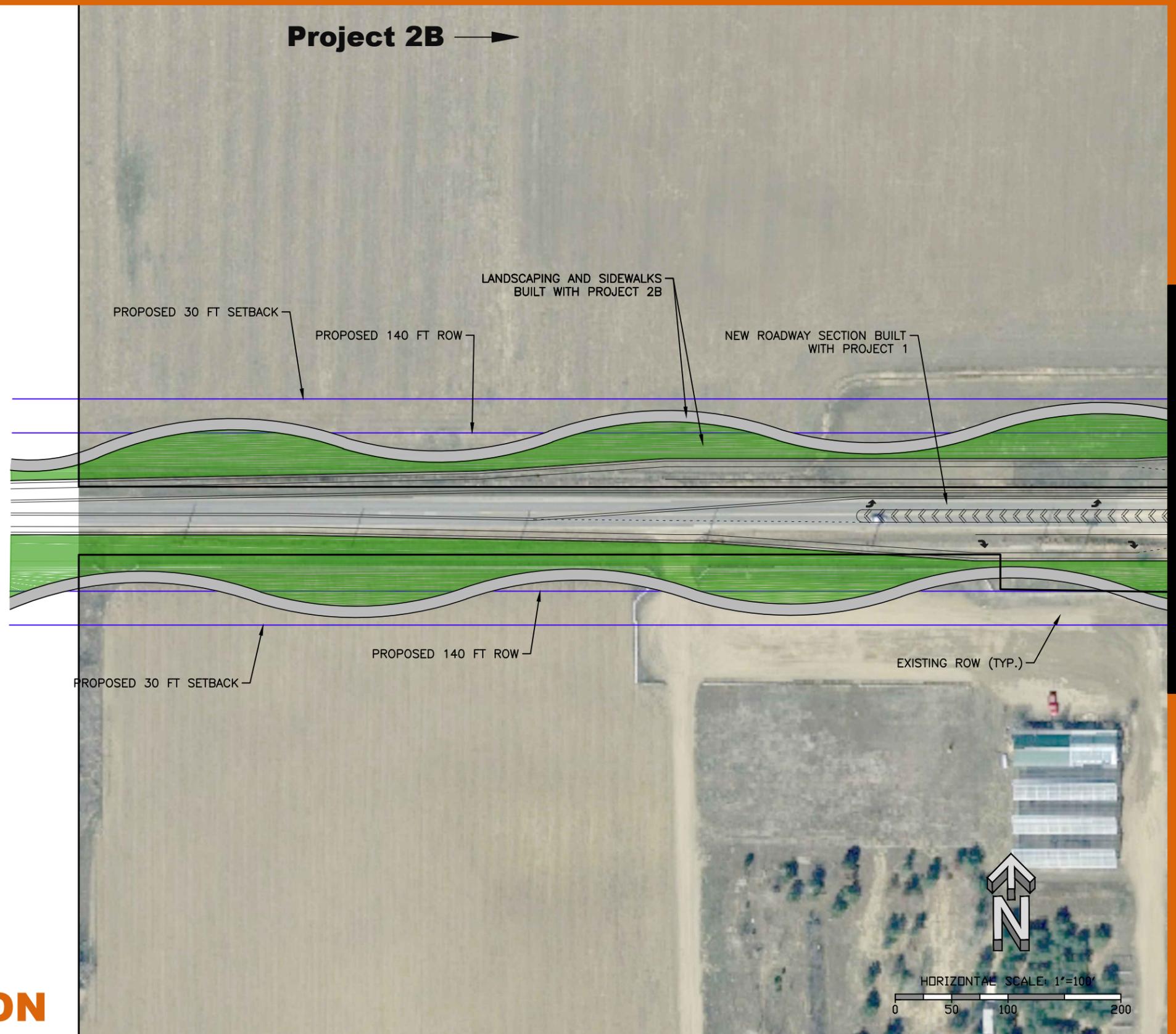
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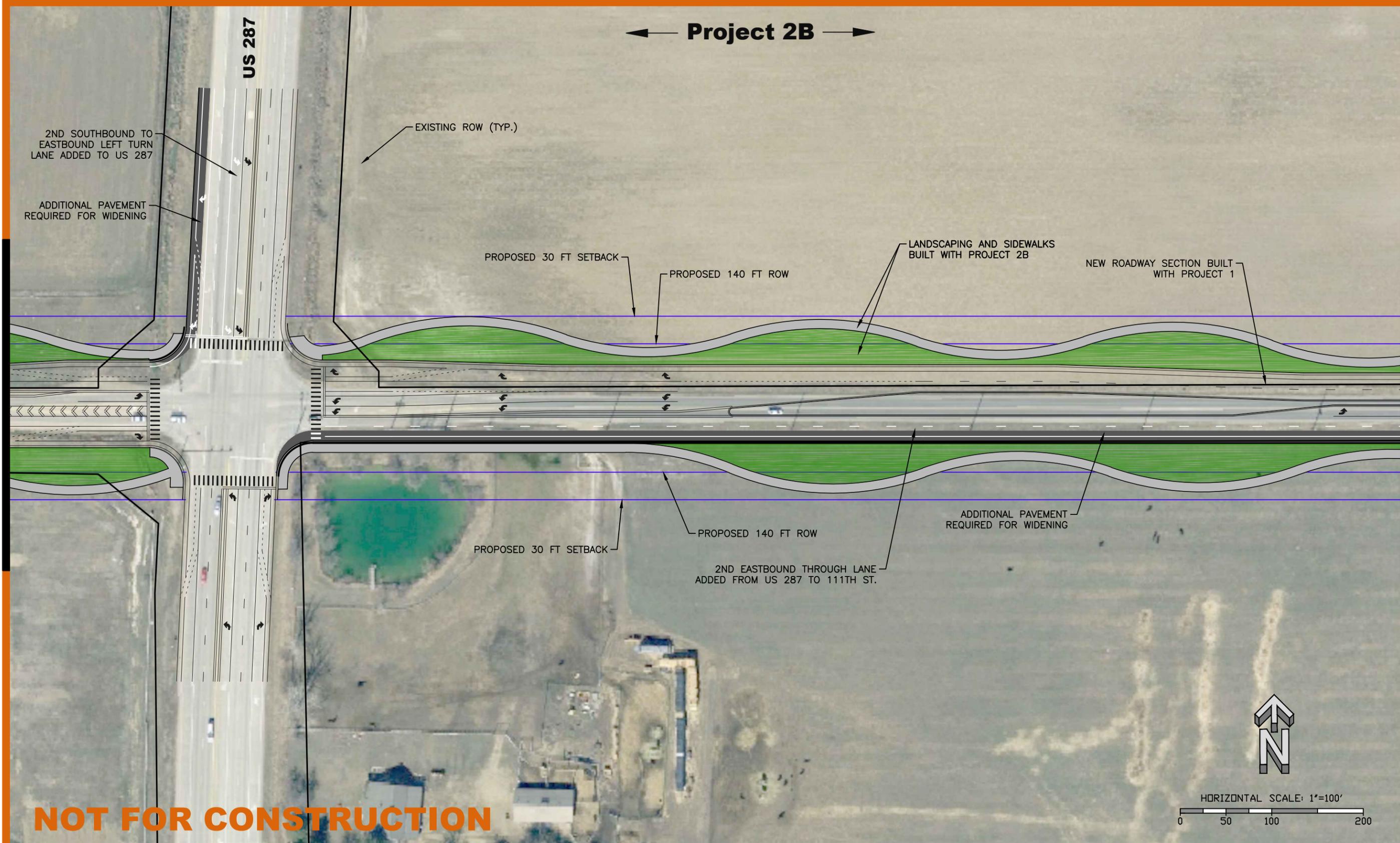
August 2017

August 2017



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← Project 2B →



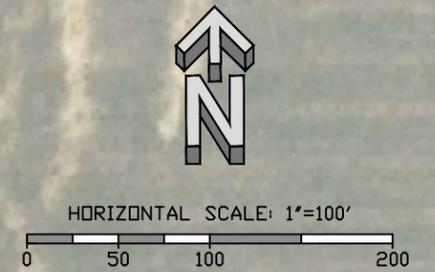
August 2017

MATCHLINE 1

MATCHLINE 2

August 2017

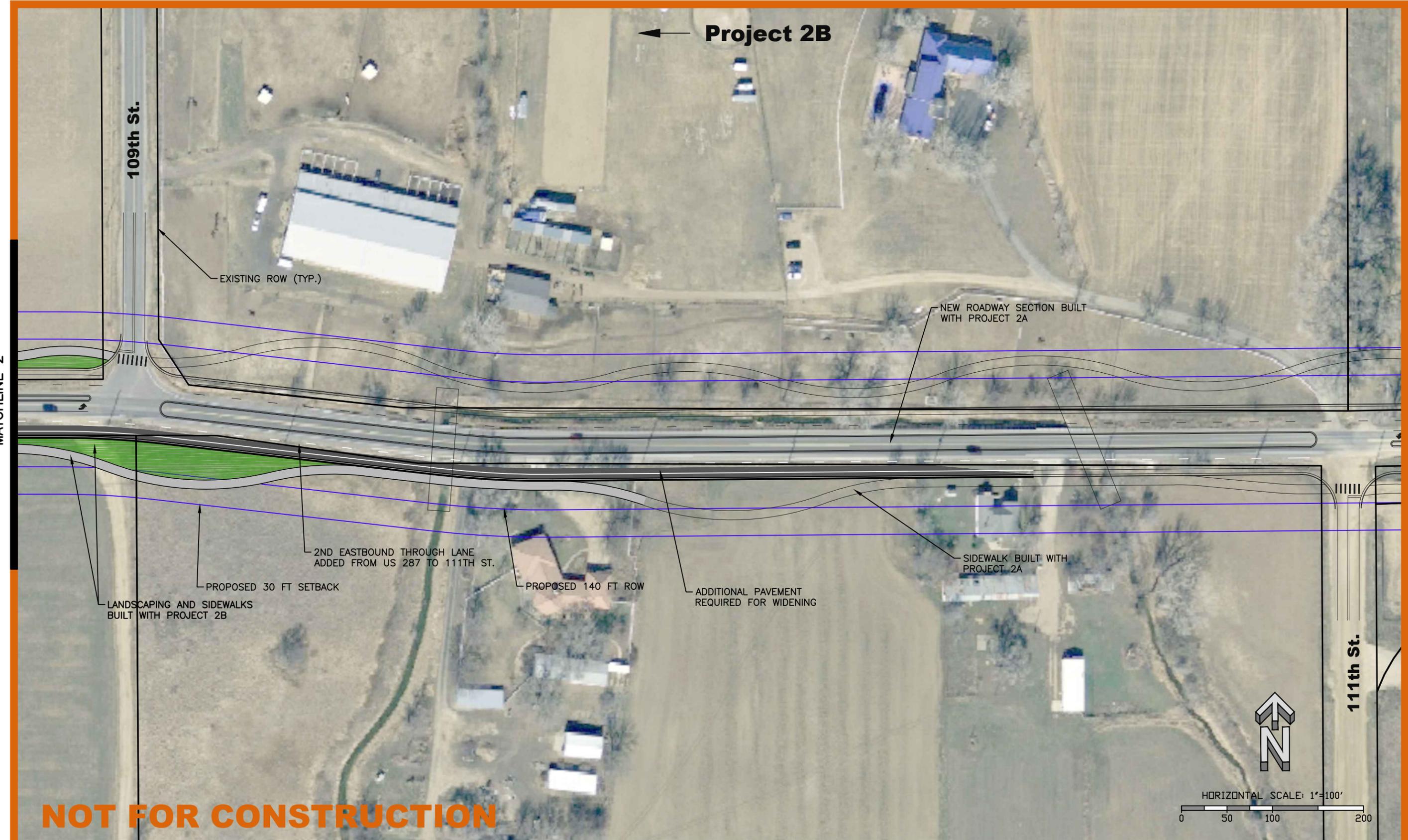
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August 2017

MATCHLINE 2

August 2017



← **Project 2B**

109th St.

EXISTING ROW (TYP.)

NEW ROADWAY SECTION BUILT WITH PROJECT 2A

2ND EASTBOUND THROUGH LANE ADDED FROM US 287 TO 111TH ST.

PROPOSED 30 FT SETBACK

LANDSCAPING AND SIDEWALKS BUILT WITH PROJECT 2B

PROPOSED 140 FT ROW

ADDITIONAL PAVEMENT REQUIRED FOR WIDENING

SIDEWALK BUILT WITH PROJECT 2A

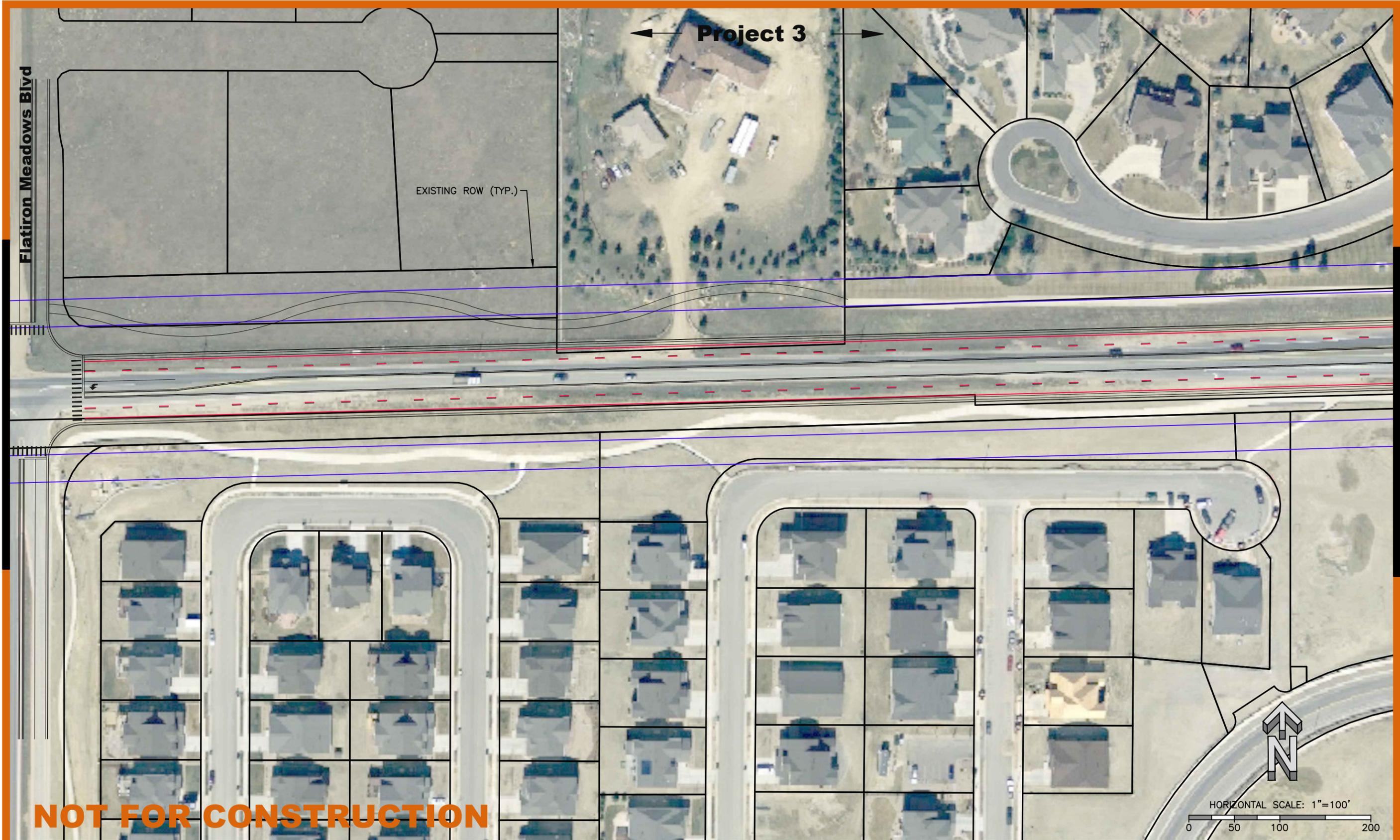
111th St.



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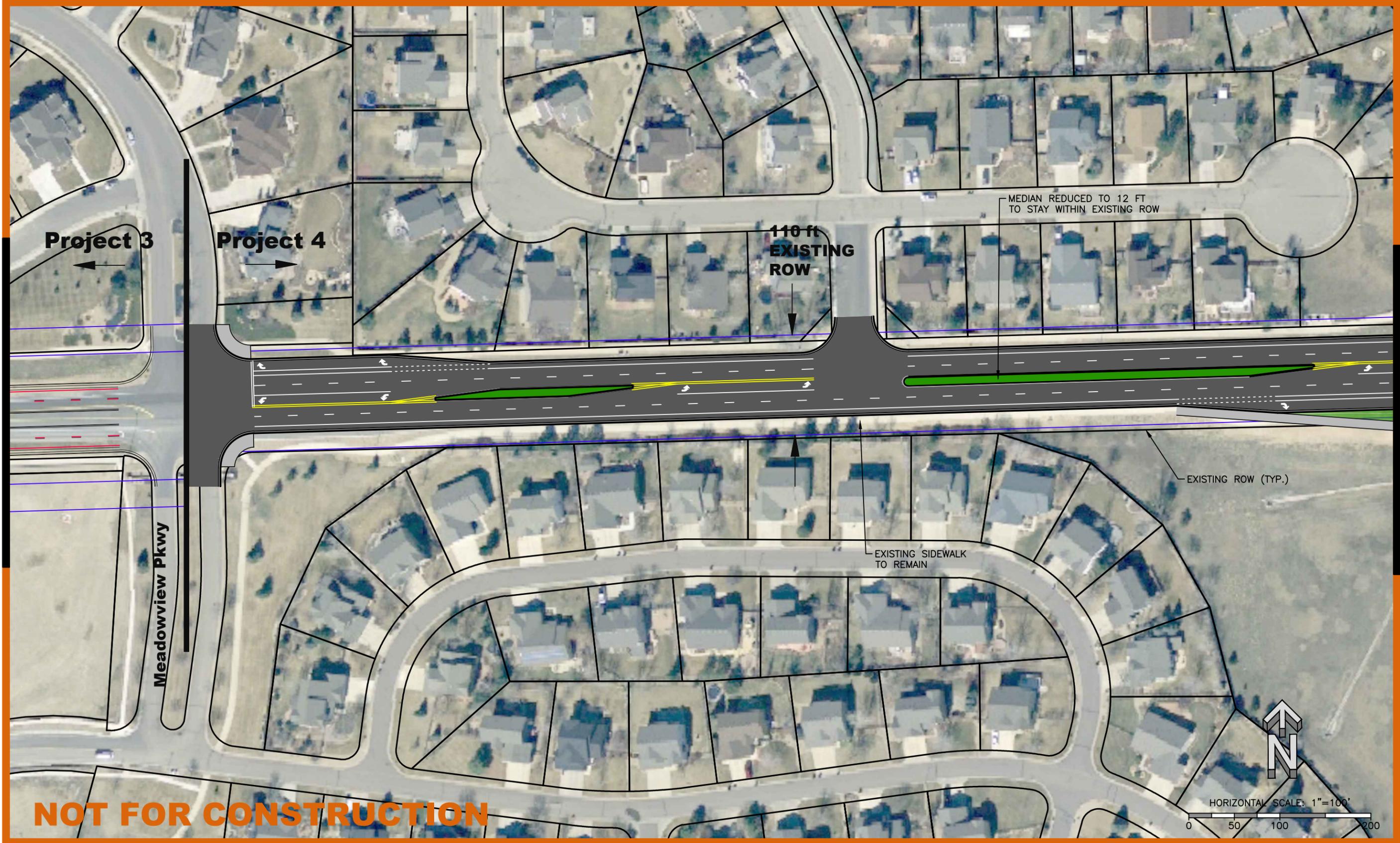
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August 2017

MATCHLINE E

MATCHLINE F

August 2017

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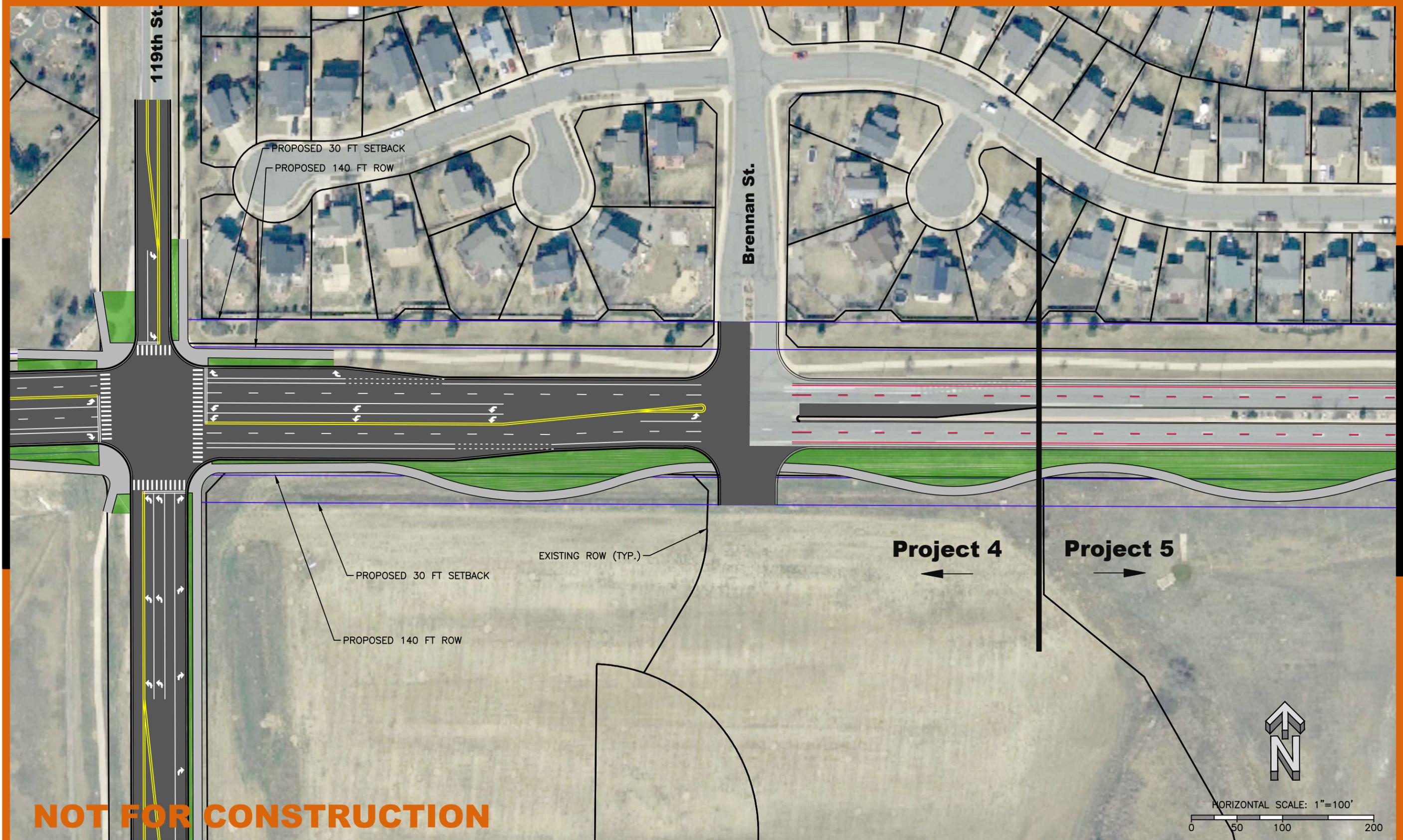
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August 2017

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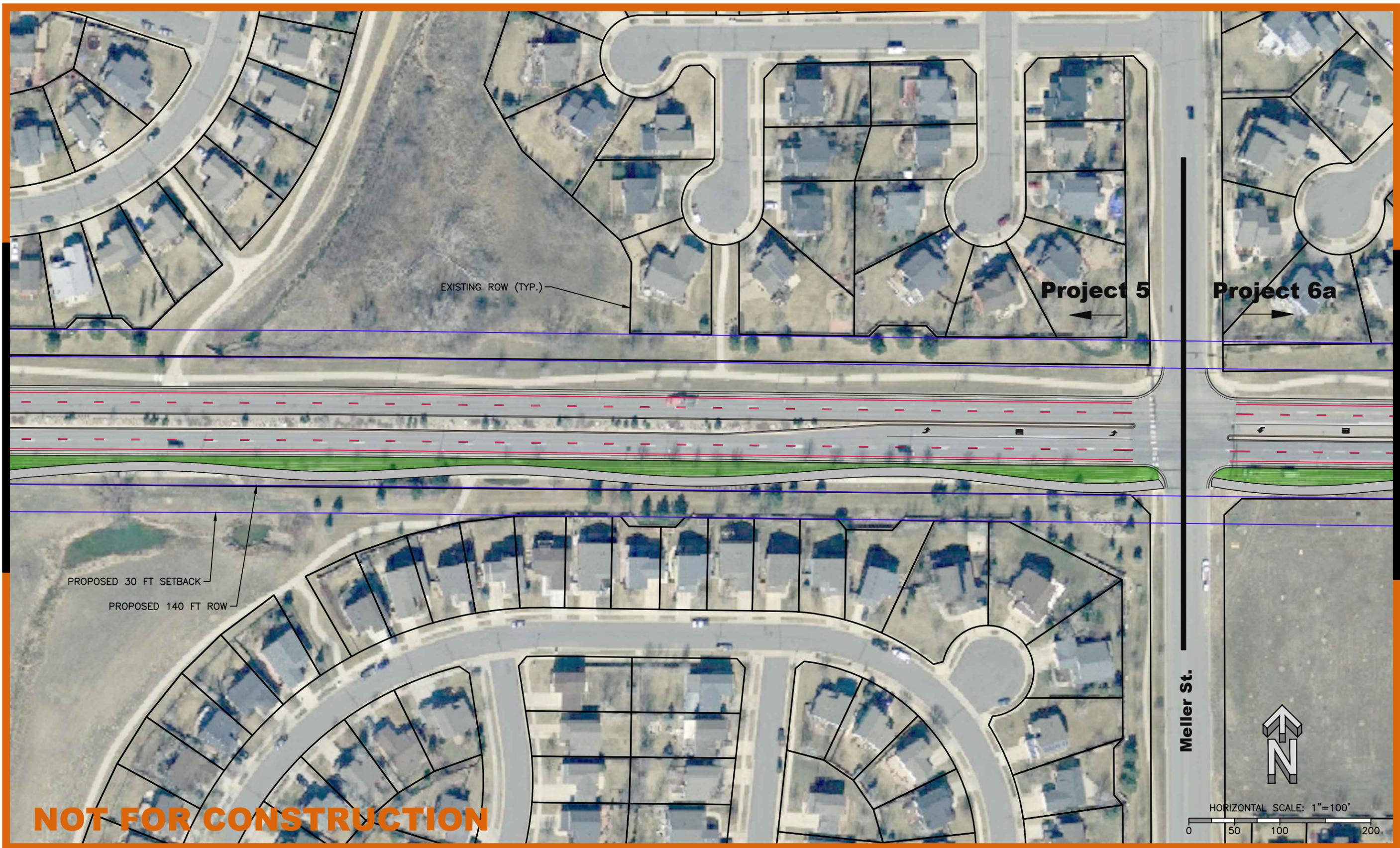
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August 2017



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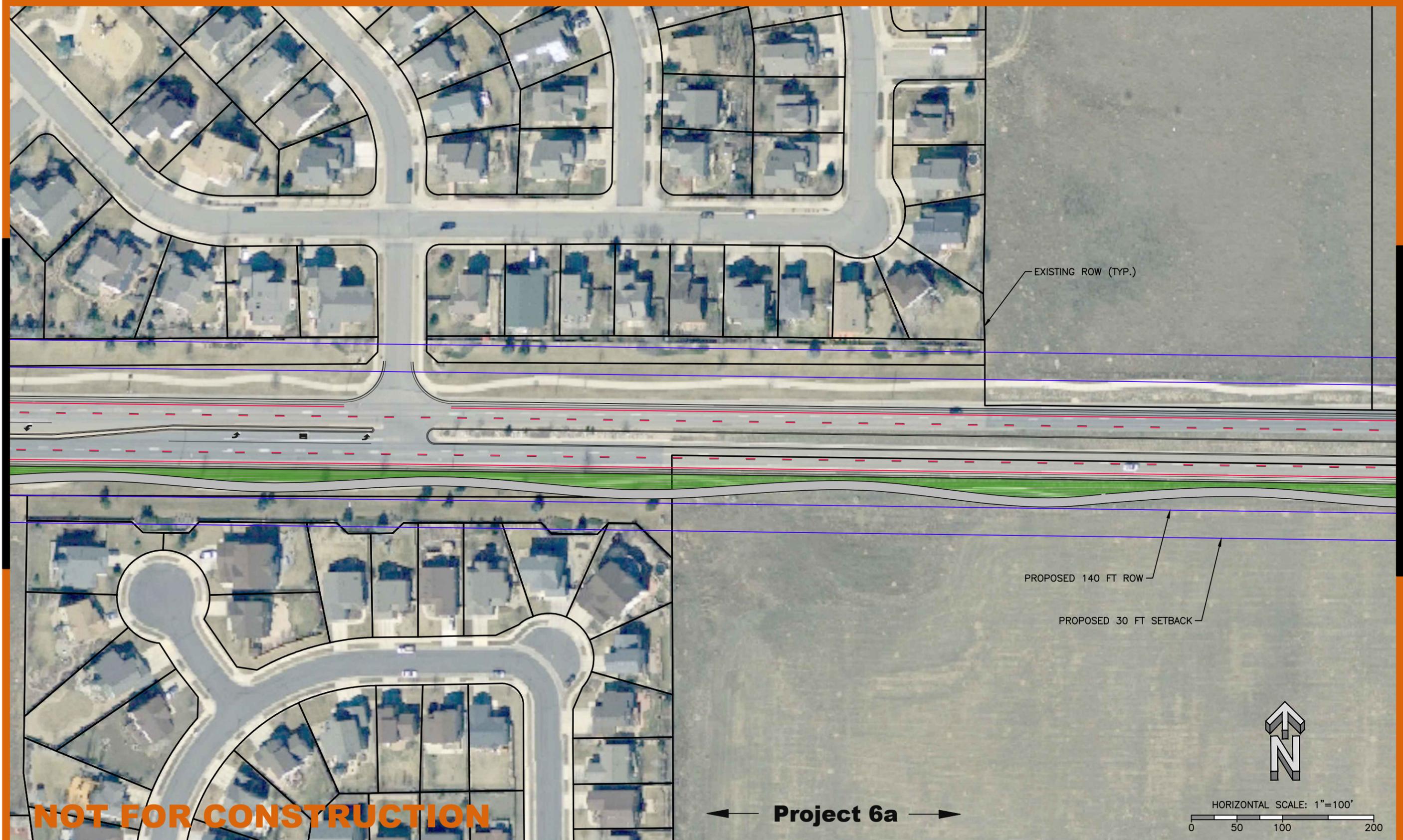
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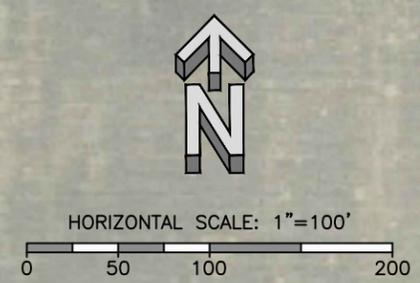
MATCHLINE I

August 2017



NOT FOR CONSTRUCTION

← **Project 6a** →



August 2017

MATCHLINE I

MATCHLINE J

August 2017

← Project 6a →

← Project 7 →

EXISTING ROW (TYP.)

PROPOSED 140 FT ROW

PROPOSED 30 FT SETBACK

Future Access

Future Access

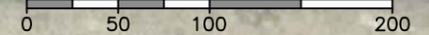
Future Four Corners Development

County Line Rd.

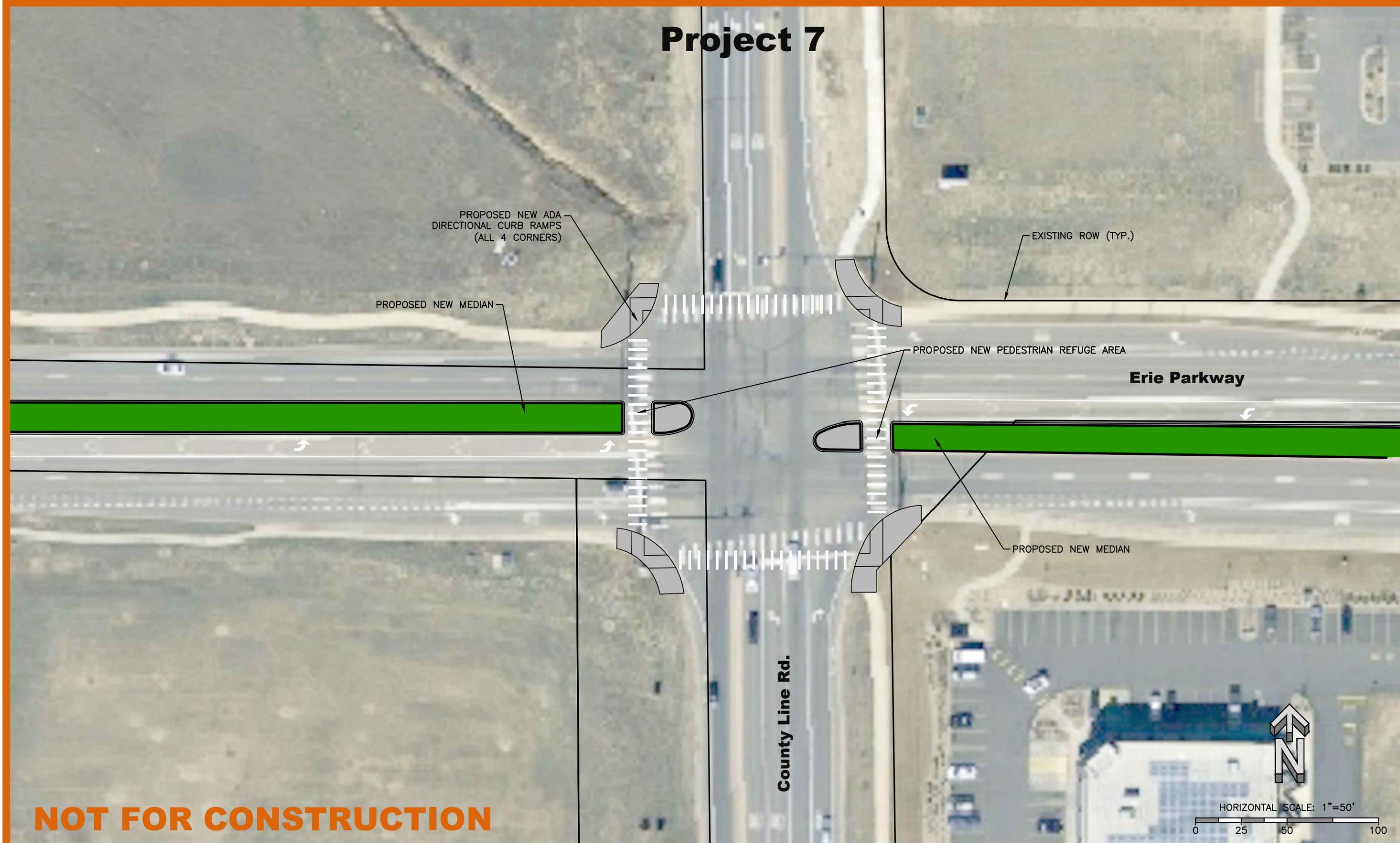
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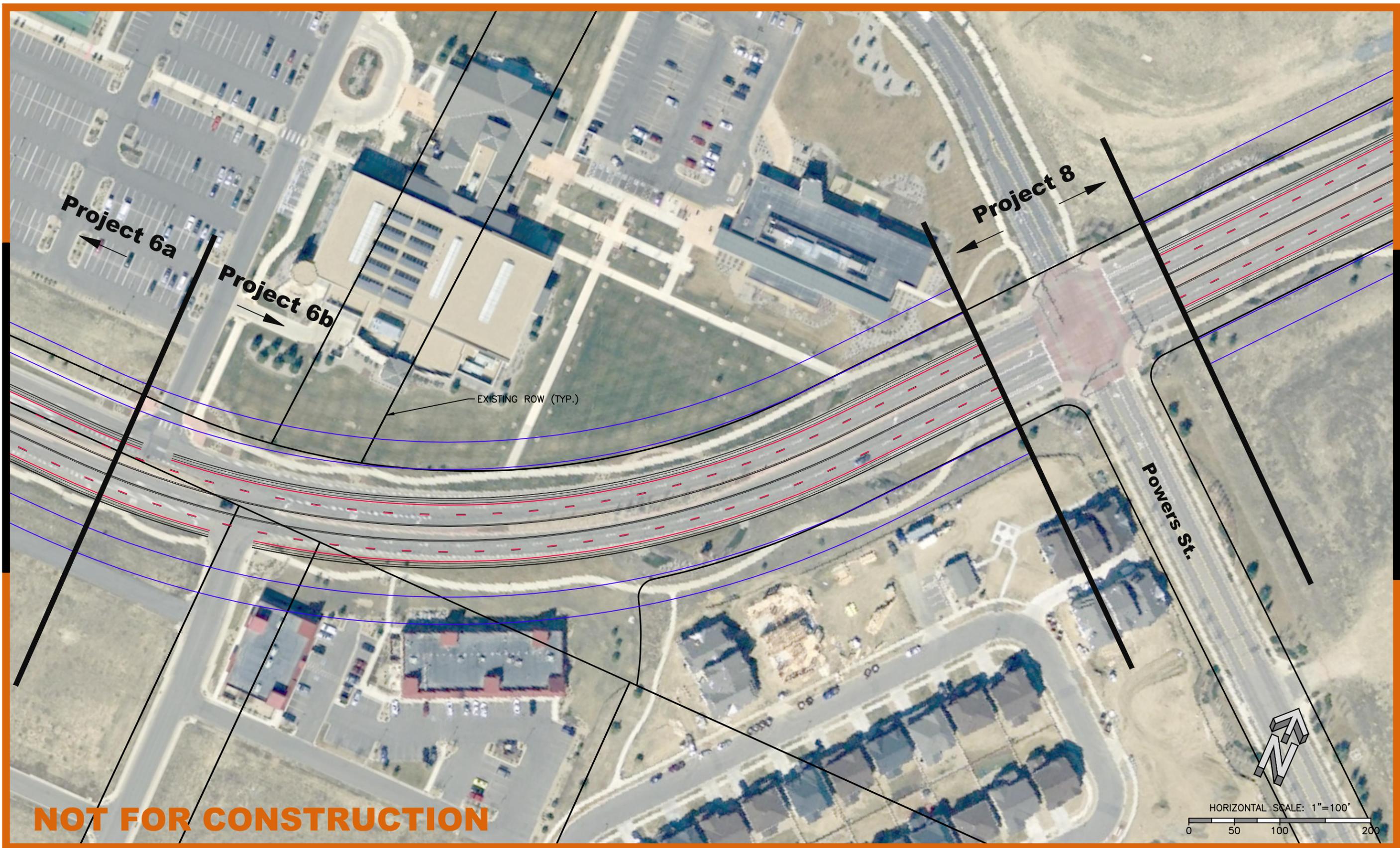
Project 7



August 2017

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August 2017

MATCHLINE J

MATCHLINE K

August 2017

NOT FOR CONSTRUCTION

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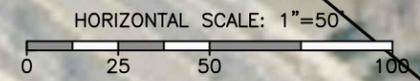
Project 8

Erie Parkway

Powers St.

PROPOSED NEW ADA
DIRECTIONAL CURB RAMPS
(ALL 4 CORNERS)

EXISTING ROW (TYP.)



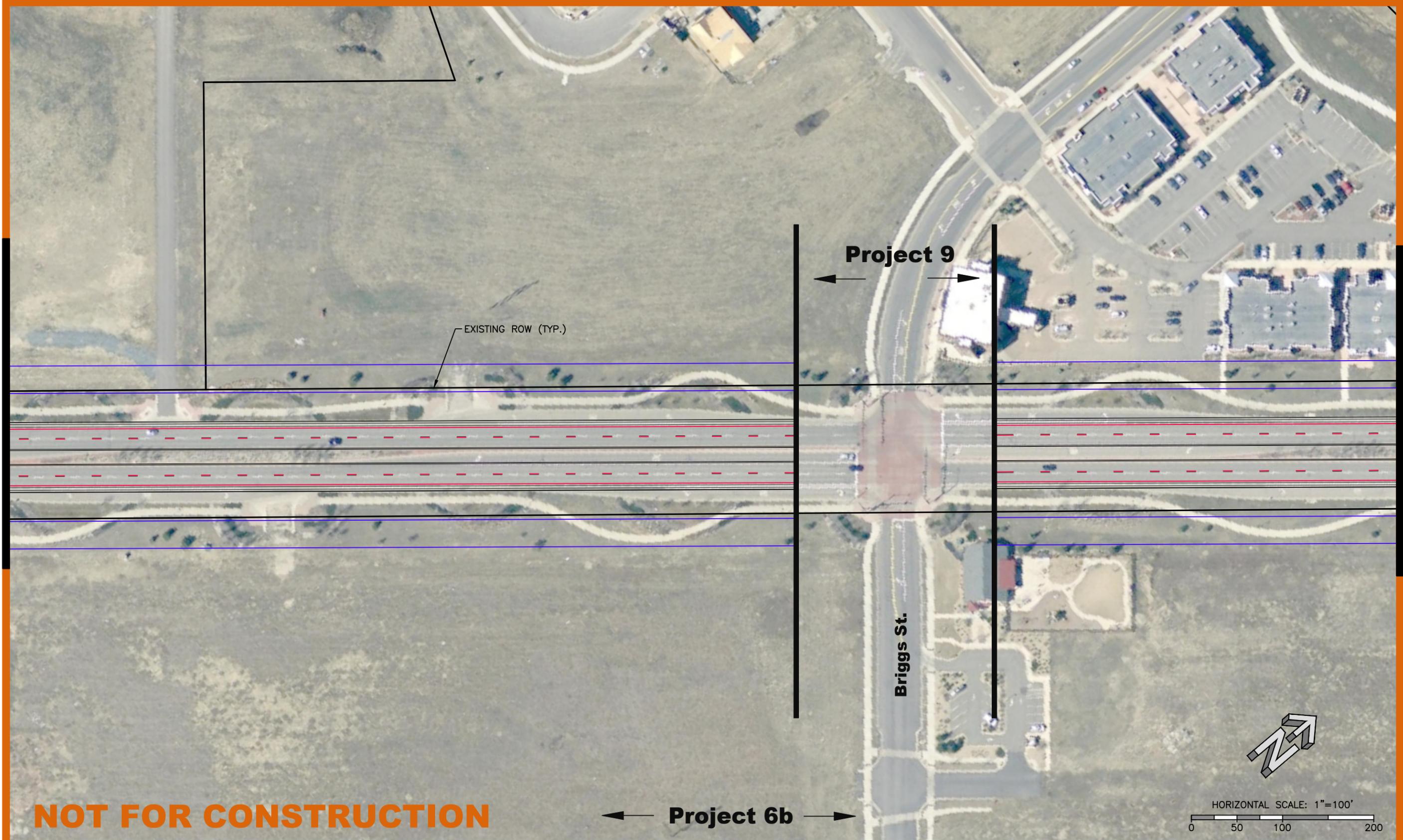
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August 2017

MATCHLINE K



MATCHLINE L

August 2017

NOT FOR CONSTRUCTION

← **Project 6b** →

Project 9

Briggs St.

EXISTING ROW (TYP.)

HORIZONTAL SCALE: 1"=100'
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Project 9

PROPOSED NEW ADA
DIRECTIONAL CURB RAMP
(ALL 4 CORNERS)

Erie Parkway

Briggs St.

EXISTING ROW (TYP.)

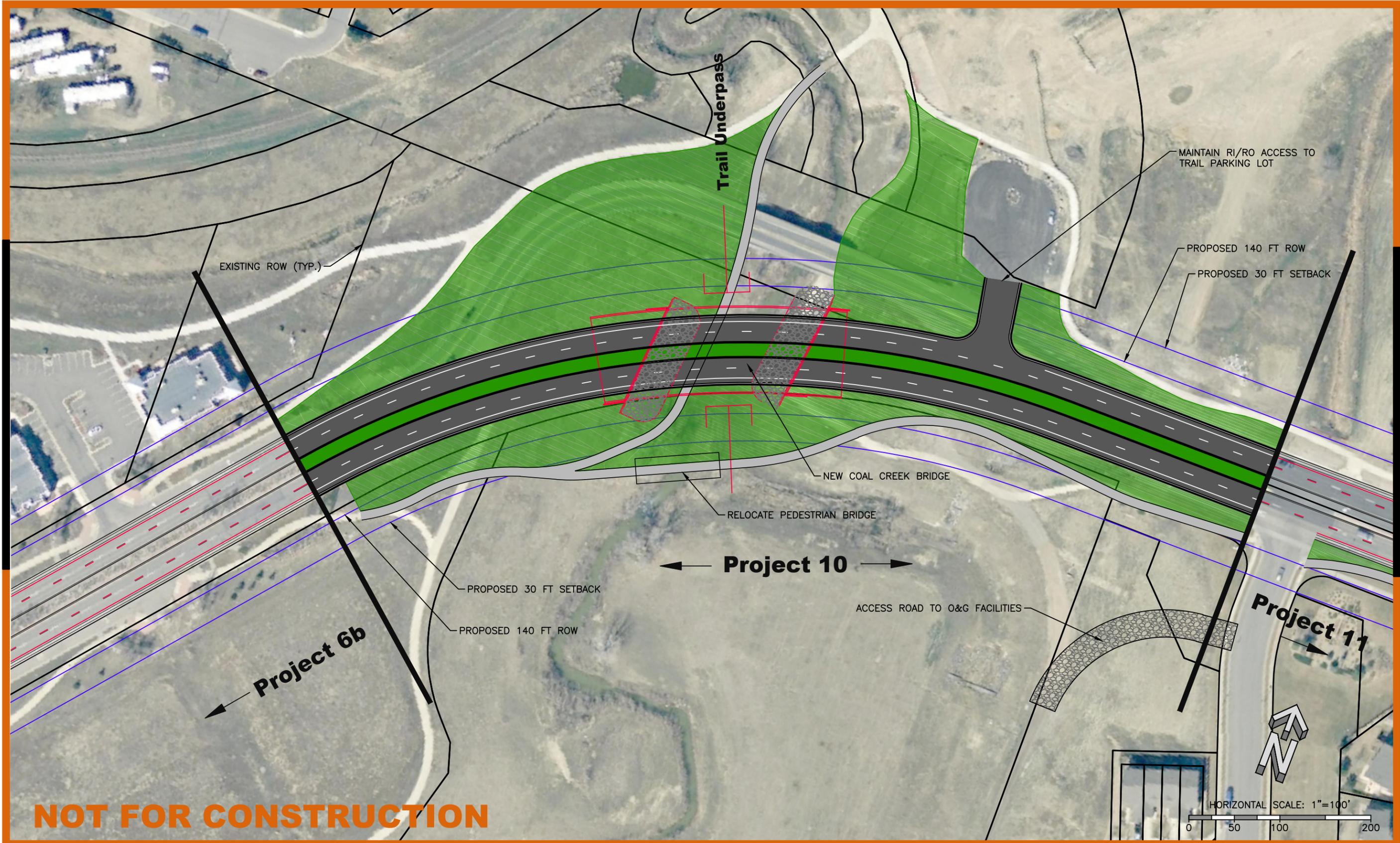


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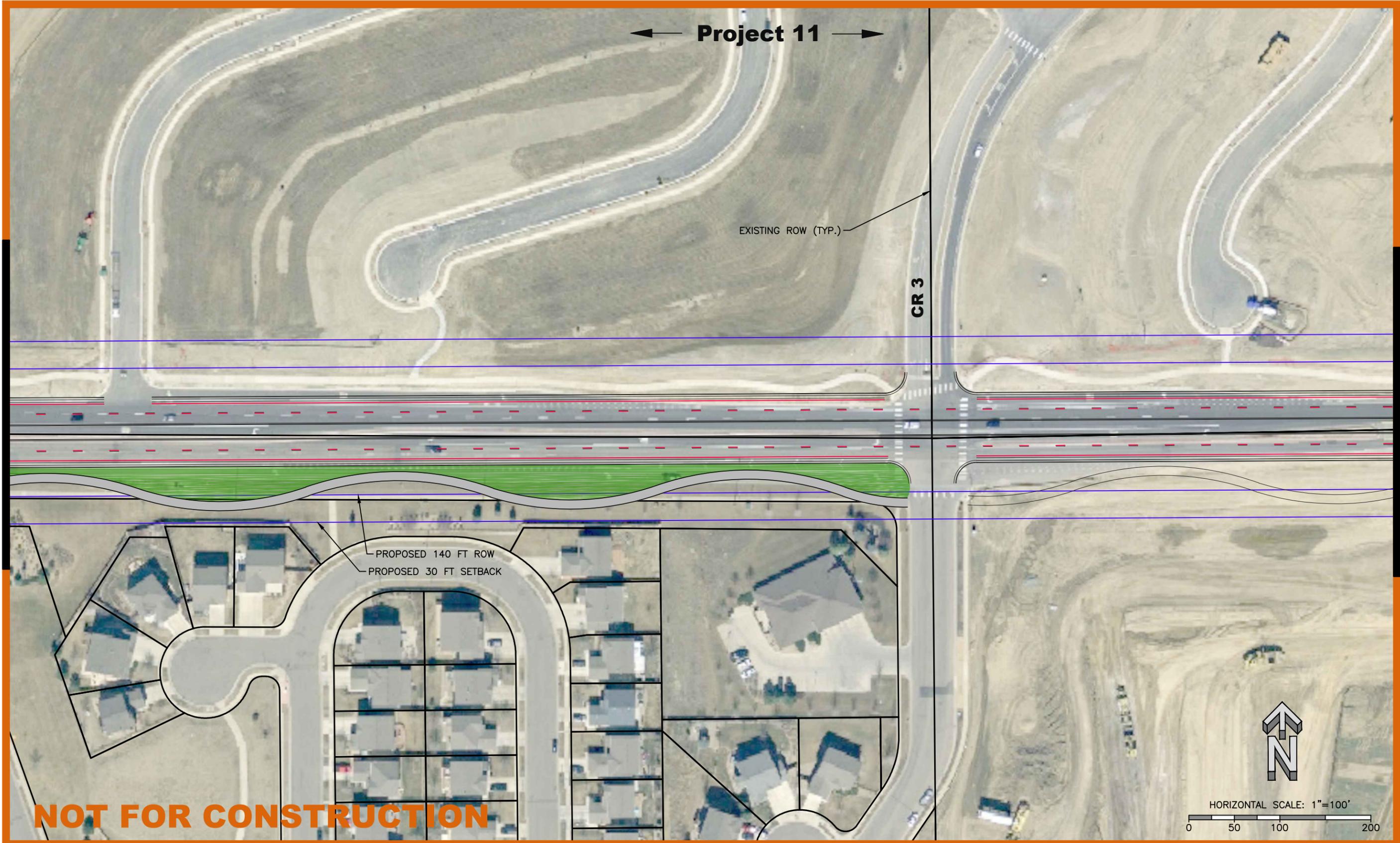
MATCHLINE L

MATCHLINE M

August 2017

NOT FOR CONSTRUCTION

HORIZONTAL SCALE: 1"=100'
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August 2017

August 2017

← **Project 11** →

August 2017

MATCHLINE N

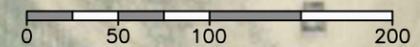
MATCHLINE O

August 2017

NOT FOR CONSTRUCTION



HORIZONTAL SCALE: 1"=100'



← Project 11 →

August 2017

MATCHLINE O

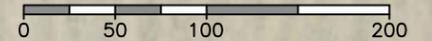
MATCHLINE P

August 2017

NOT FOR CONSTRUCTION



HORIZONTAL SCALE: 1"=100'



← **Project 11** →

PROPOSED 30 FT SETBACK

PROPOSED 140 FT ROW

PROPOSED 140 FT ROW

PROPOSED 30 FT SETBACK

August 2017

MATCHLINE P

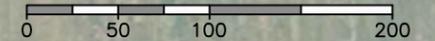
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August 2017

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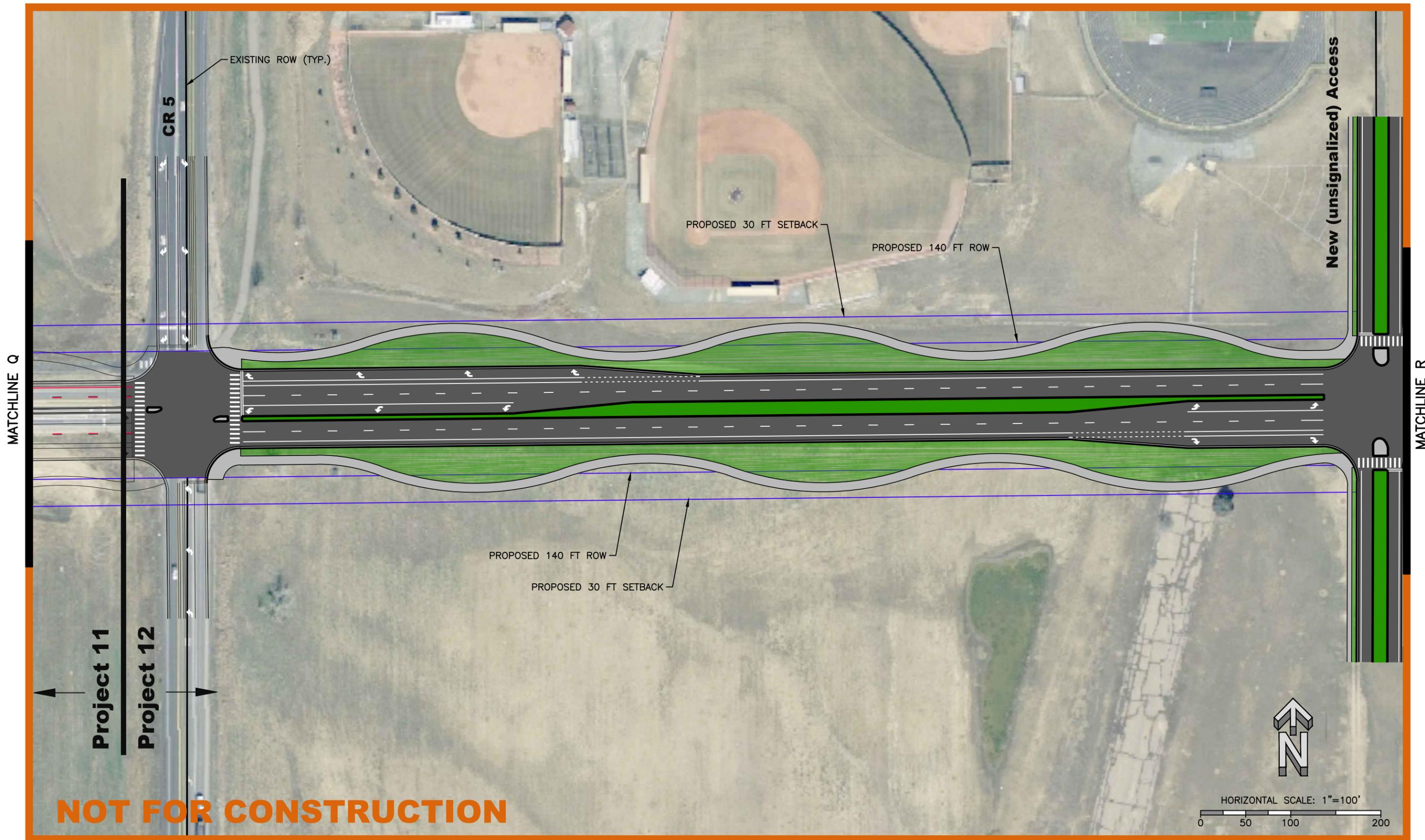


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August 2017

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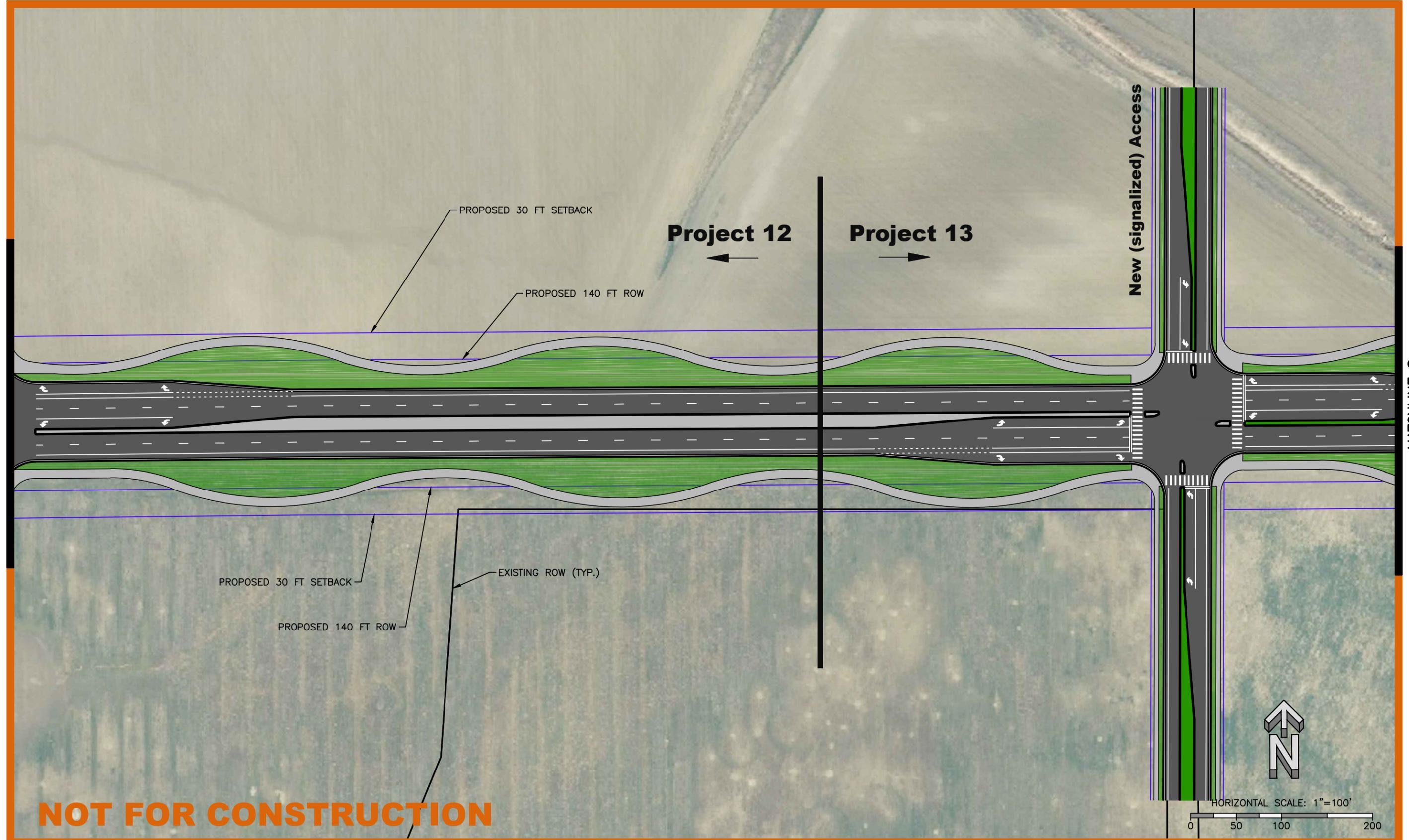


NOT FOR CONSTRUCTION

HORIZONTAL SCALE: 1"=100'
0 50 100 200

August 2017

MATCHLINE R



MATCHLINE S

August 2017

NOT FOR CONSTRUCTION

HORIZONTAL SCALE: 1"=100'
0 50 100 200

← Project 13 →

Trail Underpass

New (unsignalized) Access

PROPOSED 30 FT SETBACK

PROPOSED 140 FT ROW

PROPOSED 140 FT ROW

PROPOSED 30 FT SETBACK

MATCHLINE S

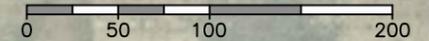
MATCHLINE T

August 2017

August 2017



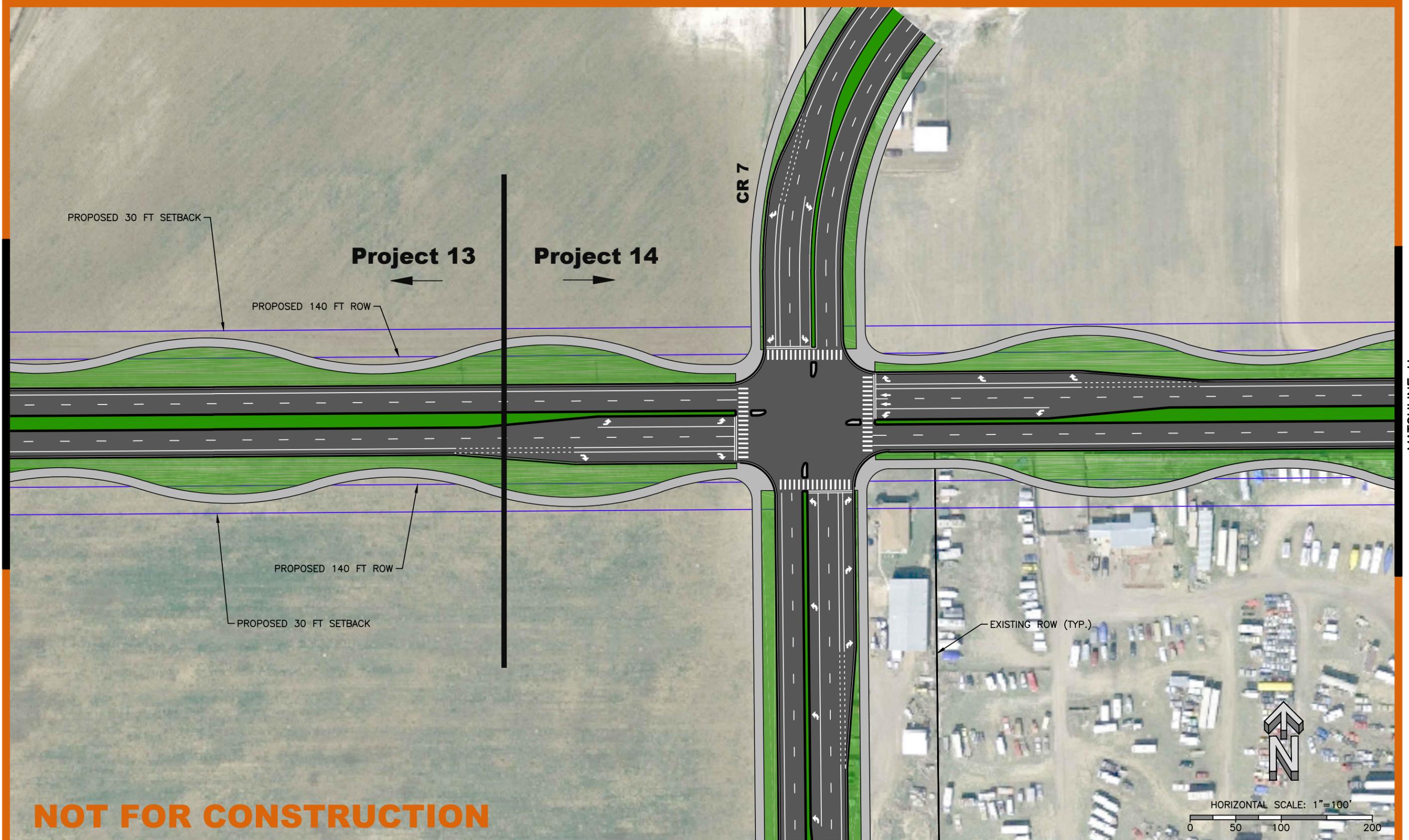
HORIZONTAL SCALE: 1"=100'



NOT FOR CONSTRUCTION

August 2017

MATCHLINE T



MATCHLINE U

August 2017

NOT FOR CONSTRUCTION

← Project 14 →

New (unsignalized) Access

PROPOSED 30 FT SETBACK

PROPOSED 140 FT ROW

PROPOSED 140 FT ROW

PROPOSED 30 FT SETBACK

EXISTING ROW (TYP.)

August 2017

MATCHLINE U

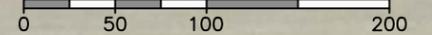
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August 2017

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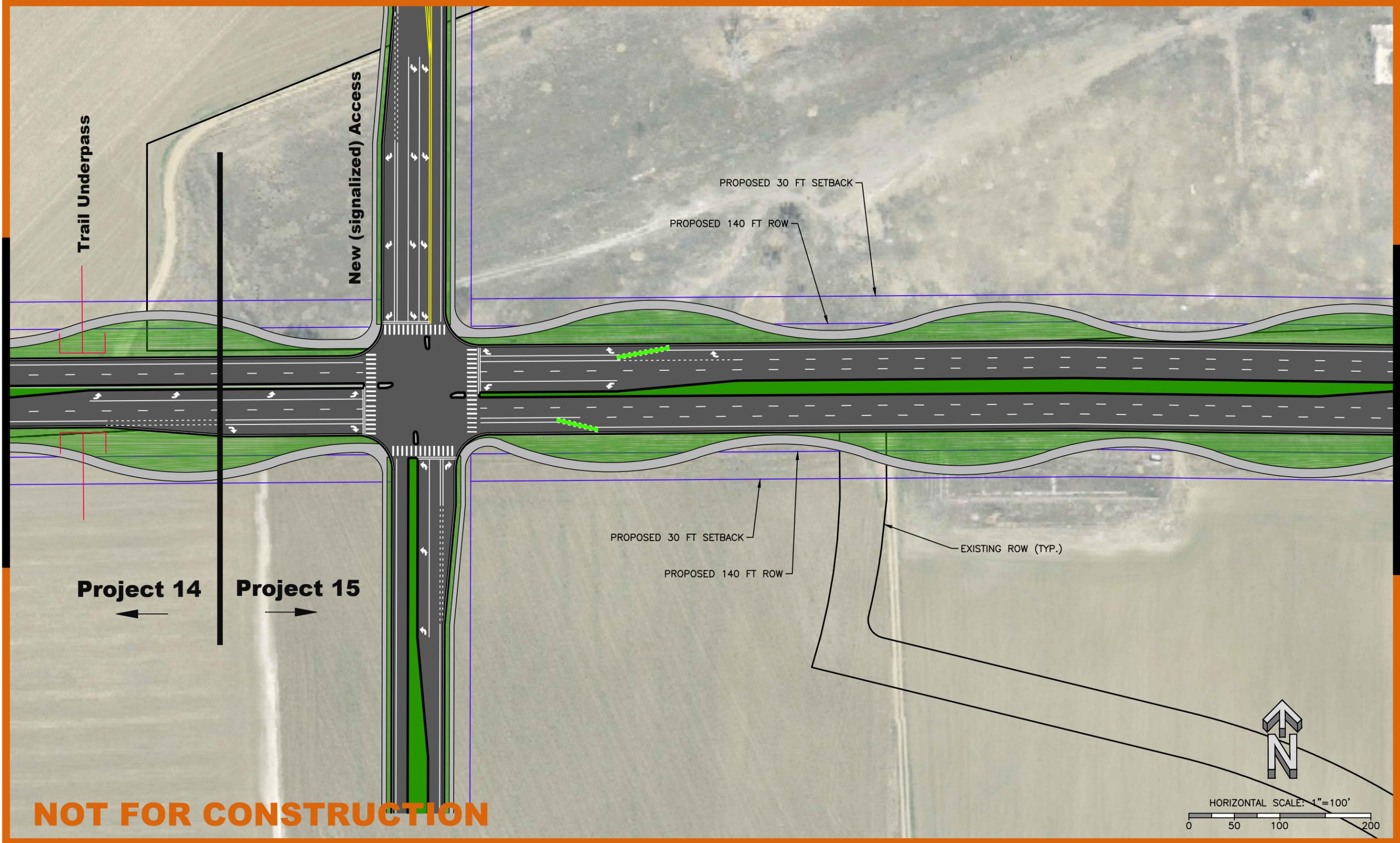


August 2017

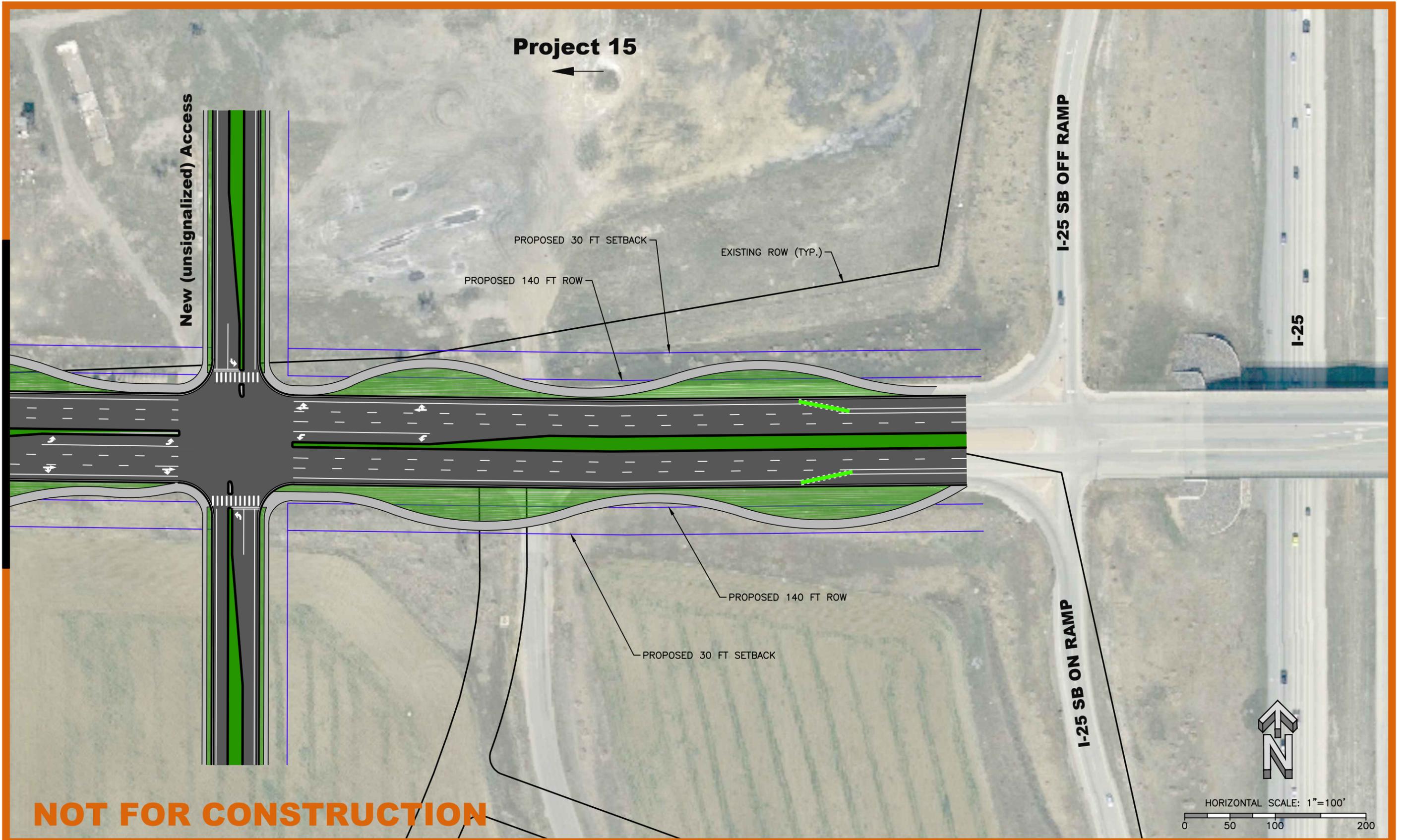
MATCHLINE V

MATCHLINE W

August 2017



NOT FOR CONSTRUCTION



August 2017

MATCHLINE W

August 2017

Appendix E. Cost Estimates

Opinion of Probable Cost

Project #1: Erie Parkway Improvements from US 287 to 109th St.

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Curb and Gutter (Type 2-IB)	LF	1,635	\$30	\$49,050	
Curb and Gutter (Type 2-IIB)	LF	5,292	\$28	\$148,176	
Hot Mix Asphalt (HMA)	TON	10,960	\$100	\$1,095,950	
Aggregate Base Course (ABC)	CY	4,228	\$50	\$211,410	
Concrete Sidewalk	SY	0	\$58	\$0	
Median Landscaped Area	SF	12,536	\$20	\$250,720	
Native Landscaped Area	SF	0	\$10	\$0	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$1,765,307	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$1,765,307	(A)
Removals	3% of (A)		3.00%	\$52,960	(B)
Drainage	8% of (A)		8.00%	\$141,230	(C)
Erosion Control	(3-8%) of (A)		5.00%	\$88,270	(D)
Signing and Striping	1-5% of (A)		4.00%	\$70,620	(E)
Lighting	5% of (A)		5.00%	\$88,270	(F)
Utilities	10% of (A)		10.00%	\$176,540	(G)
Environmental	10% of (A)		10.00%	\$176,540	(H)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$264,800	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$169,480	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$898,210	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$3,892,230	(L)
Total Construction Engineering	15% of (L)		15.00%	\$583,840	(M)
Total Final Engineering	12% of (L)		12.00%	\$467,070	(N)
Total Project Cost	(L+M+N)			\$4,944,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

2. In providing opinions of probable construction cost, the Client understands that Felsburg Holt & Ullevig has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of our qualifications and experience. FHU makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Opinion of Probable Cost

Project #2A: Erie Parkway Improvements from 109th St. to Baxter Farm Ln.

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Curb and Gutter (Type 2-IB)	LF	5,358	\$30	\$160,740	
Curb and Gutter (Type 2-IIB)	LF	5,591	\$28	\$156,548	
Hot Mix Asphalt (HMA)	TON	7,331	\$100	\$733,142	
Aggregate Base Course (ABC)	CY	2,828	\$50	\$141,424	
Concrete Sidewalk	SY	6,174	\$58	\$358,079	
Median Landscaped Area	SF	37,690	\$20	\$753,800	
Native Landscaped Area	SF	133,441	\$10	\$1,334,410	
Culvert Extension	LF	90	\$1,600	\$144,000	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$3,792,144	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$3,792,144	(A)
Removals	6% of (A)		6.00%	\$227,530	(B)
Drainage	12% of (A)		12.00%	\$455,060	(C)
Erosion Control	(3-8%) of (A)		5.00%	\$189,610	(D)
Signing and Striping	1-5% of (A)		4.00%	\$151,690	(E)
Lighting	5% of (A)		5.00%	\$189,610	(F)
Utilities	10% of (A)		10.00%	\$379,220	(G)
Environmental	10% of (A)		10.00%	\$379,220	(H)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$568,830	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$379,980	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$2,013,870	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$8,726,770	(L)
Total Construction Engineering	15% of (L)		15.00%	\$1,309,020	(M)
Total Final Engineering	12% of (L)		12.00%	\$1,047,220	(N)
Total Project Cost	(L+M+N)			\$11,084,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.
 2. In providing opinions of probable construction cost, the Client understands that Felsburg Holt & Ullevig has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of our qualifications and experience. FHU makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Opinion of Probable Cost

Project #2B: Erie Parkway Improvements from US 287 to 111th St.
 (adding 2nd EB thru lane from 287 to 111th)

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$5,000	\$5,000	
Curb and Gutter (Type 2-IB)	LF	0	\$30	\$0	
Curb and Gutter (Type 2-IIB)	LF	2,365	\$28	\$66,220	
Hot Mix Asphalt (HMA)	TON	1,435	\$100	\$143,520	
Aggregate Base Course (ABC)	CY	554	\$50	\$27,685	
Concrete Sidewalk	SY	5,914	\$58	\$343,012	
Median Landscaped Area	SF	0	\$20	\$0	
Native Landscaped Area	SF	117,614	\$10	\$1,176,140	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$1,761,577	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$1,761,577	(A)
Removals	2% of (A)		2.00%	\$35,240	(B)
Drainage	8% of (A)		8.00%	\$140,930	(C)
Erosion Control	(3-8%) of (A)		5.00%	\$88,080	(D)
Signing and Striping	1-5% of (A)		3.00%	\$52,850	(E)
Lighting	0% of (A)		0.00%	\$0	(F)
Utilities	10% of (A)		10.00%	\$176,160	(G)
Environmental	0% of (A)		0.00%	\$0	(H)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$264,240	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$151,150	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$801,070	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$3,471,300	(L)
Total Construction Engineering	15% of (L)		15.00%	\$520,700	(M)
Total Final Engineering	12% of (L)		12.00%	\$416,560	(N)
Total Project Cost	(L+M+N)			\$4,409,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.
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Opinion of Probable Cost

Project #3: Erie Parkway **restriping** from Baxter Farm Ln. to Meadowview Pkwy

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Removal of Pavement Marking	SF	1,833	\$1	\$1,833	
Epoxy Pavement Marking	GAL	18	\$150	\$2,750	
Total accounted construction items				\$4,583	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$4,583	(A)
Erosion Control	(3-8%) of (A)		5.00%	\$229	(B)
Construction Traffic Control	5 to 25% of (A)		30.00%	\$1,380	(C)
Mobilization	(4 to 10%) of (A+B+C) Default = 6%		10.00%	\$620	(D)
Contingencies	(15% - 30%) of (A+B+C+D)		30.00%	\$2,050	(E)
Total of Construction Bid Items	(A+B+C+D+E)			\$8,870	(F)
Total Construction Engineering	15% of (F)		15.00%	\$1,340	(G)
Total Final Engineering	12% of (F)		12.00%	\$1,070	(H)
Total Project Cost	(F+G+H)			\$11,300	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

2. In providing opinions of probable construction cost, the Client understands that Felsburg Holt & Ullevig has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of our qualifications and experience. FHU makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Opinion of Probable Cost

Project #4: Erie Parkway Improvements from Meadowview Pkwy to Brennan St.

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Curb and Gutter (Type 2-IB)	LF	1,621	\$30	\$48,630	
Curb and Gutter (Type 2-IIB)	LF	5,968	\$28	\$167,104	
Hot Mix Asphalt (HMA)	TON	10,396	\$100	\$1,039,555	
Aggregate Base Course (ABC)	CY	4,011	\$50	\$200,531	
Concrete Sidewalk	SY	2,627	\$58	\$152,353	
Median Landscaped Area	SF	5,243	\$20	\$104,860	
Native Landscaped Area	SF	20,906	\$10	\$209,060	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$1,932,094	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$1,932,094	(A)
Removals	5% of (A)		5.00%	\$96,610	(B)
Drainage	8% of (A)		8.00%	\$154,570	(C)
Erosion Control	(3-8%) of (A)		5.00%	\$96,610	(D)
Signing and Striping	1-5% of (A)		4.00%	\$77,290	(E)
Lighting	5% of (A)		5.00%	\$96,610	(F)
Utilities	10% of (A)		10.00%	\$193,210	(G)
Environmental	10% of (A)		10.00%	\$193,210	(H)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$289,820	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$187,810	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$995,360	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$4,313,200	(L)
Total Construction Engineering	15% of (L)		15.00%	\$646,980	(M)
Total Final Engineering	12% of (L)		12.00%	\$517,590	(N)
Total Project Cost	(L+M+N)			\$5,478,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.
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Opinion of Probable Cost

Project #5: Erie Parkway **restriping** from Brennan St. to Meller St.

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$3,000	\$3,000	
Removal of Sidewalk	SY	681	\$16	\$10,889	
Removal of Pavement Marking	SF	1,667	\$1	\$1,667	
Epoxy Pavement Marking	GAL	17	\$150	\$2,500	
Concrete Sidewalk	SY	2,146	\$58	\$124,468	
Median Landscaped Area	SF	0	\$20	\$0	
Native Landscaped Area	SF	22,567	\$10	\$225,670	
Total accounted construction items				\$368,194	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$368,194	(A)
Erosion Control	(3-8%) of (A)		5.00%	\$18,410	(B)
Environmental	10% of (A)		10.00%	\$36,820	(C)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$55,230	(D)
Mobilization	(4 to 10%) of (A+B+C+D) Default = 6%		6.00%	\$28,720	(E)
Contingencies	(15% - 30%) of (A+B+C+D+E)		30.00%	\$152,220	(F)
Total of Construction Bid Items	(A+B+C+D+E+F)			\$659,600	(G)
Total Construction Engineering	15% of (G)		15.00%	\$98,940	(H)
Total Final Engineering	12% of (G)		12.00%	\$79,160	(I)
Total Project Cost	(G+H+I)			\$837,700	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

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Opinion of Probable Cost

Project #6: Erie Parkway **restriping** from Meller St. to east of Briggs Street

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Removal of Sidewalk	SY	1,389	\$16	\$22,222	
Removal of Pavement Marking	SF	5,567	\$1	\$5,567	
Epoxy Pavement Marking	GAL	56	\$150	\$8,350	
Concrete Sidewalk	SY	2,899	\$58	\$168,161	
Median Landscaped Area	SF	0	\$20	\$0	
Native Landscaped Area	SF	29,126	\$10	\$291,260	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$505,560	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$505,560	(A)
Erosion Control	(3-8%) of (A)		5.00%	\$25,280	(B)
Construction Traffic Control	5 to 25% of (A)		20.00%	\$101,120	(C)
Mobilization	(4 to 10%) of (A+B+C) Default = 6%		8.00%	\$50,560	(D)
Contingencies	(15% - 30%) of (A+B+C+D)		30.00%	\$204,760	(E)
Total of Construction Bid Items	(A+B+C+D+E)			\$887,290	(F)
Total Construction Engineering	15% of (F)		15.00%	\$133,100	(G)
Total Final Engineering	12% of (F)		12.00%	\$106,480	(H)
Total Project Cost	(F+G+H)			\$1,127,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.
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Opinion of Probable Cost

Project #7: Erie Parkway and County Line Road - Intersection Improvements

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	0	\$0	\$0	
Removal of Sidewalk	SY	269	\$16	\$4,299	
Curb and Gutter (Type 2-IB)	LF	1,888	\$30	\$56,640	
Curb and Gutter (Type 2-IIB)	LF	229	\$28	\$6,412	
Concrete Sidewalk	SY	269	\$58	\$15,583	
Median Landscaped Area	SF	13,066	\$20	\$261,320	
Total accounted construction items				\$344,253	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$344,253	(A)
Removals	2% of (A)		2.00%	\$6,890	(B)
Drainage	4% of (A)		4.00%	\$13,780	(C)
Erosion Control	(3-8%) of (A)		3.00%	\$10,330	(D)
Signing and Striping	1-5% of (A)		5.00%	\$17,220	(E)
Lighting	3% of (A)		3.00%	\$10,330	(F)
Utilities	3% of (A)		3.00%	\$10,330	(G)
Environmental	3% of (A)		3.00%	\$10,330	(H)
Construction Traffic Control	5 to 25% of (A)		10.00%	\$34,430	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$27,480	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		25.00%	\$114,480	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$599,860	(L)
Total Construction Engineering	15% of (L)		15.00%	\$89,980	(M)
Total Final Engineering	10% of (L)		12.00%	\$71,990	(N)
Total Project Cost	(L+M+N)			\$761,900	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

2. In providing opinions of probable construction cost, the Client understands that Felsburg Holt & Ullevig has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of our qualifications and experience. FHU makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Opinion of Probable Cost

Project #8: Erie Parkway and Powers Street - Intersection Improvements

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	0	\$0	\$0	
Removal of Sidewalk	SY	319	\$16	\$5,099	
Curb and Gutter (Type 2-IB)	LF	0	\$30	\$0	
Curb and Gutter (Type 2-IIB)	LF	209	\$28	\$5,852	
Concrete Sidewalk	SY	319	\$58	\$18,483	
Median Landscaped Area	SF	0	\$20	\$0	
Total accounted construction items				\$29,433	(A)
	<u>% Range</u>		<u>% Used</u>		
Project Construction Bid Items (from above)	Project Dependent			\$29,433	(A)
Removals	2% of (A)		2.00%	\$590	(B)
Drainage	4% of (A)		4.00%	\$1,180	(C)
Erosion Control	(3-8%) of (A)		3.00%	\$890	(D)
Construction Traffic Control	5 to 25% of (A)		30.00%	\$8,830	(E)
Mobilization	(4 to 10%) of (A+B+C+D+E) Default = 6%		6.00%	\$2,460	(F)
Contingencies	(15% - 30%) of (A+B+C+D+E+F)		25.00%	\$10,850	(G)
Total of Construction Bid Items	(A+B+C+D+E+F+G)			\$54,240	(H)
Total Construction Engineering	15% of (H)		15.00%	\$8,140	(I)
Total Final Engineering	10% of (H)		10.00%	\$5,430	(J)
Total Project Cost	(H+I+J)			\$67,900	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

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Opinion of Probable Cost

Project #9: Erie Parkway and Briggs Street - Intersection Improvements

Date Prepared: April 26, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	0	\$0	\$0	
Removal of Sidewalk	SY	259	\$16	\$4,142	
Curb and Gutter (Type 2-IB)	LF	0	\$30	\$0	
Curb and Gutter (Type 2-IIB)	LF	183	\$28	\$5,124	
Concrete Sidewalk	SY	259	\$58	\$15,016	
Median Landscaped Area	SF	0	\$20	\$0	
Total accounted construction items				\$24,282	(A)
	<u>% Range</u>		<u>% Used</u>		
Project Construction Bid Items (from above)	Project Dependent			\$24,282	(A)
Removals	2% of (A)		2.00%	\$490	(B)
Drainage	4% of (A)		4.00%	\$980	(C)
Erosion Control	(3-8%) of (A)		3.00%	\$730	(D)
Construction Traffic Control	5 to 25% of (A)		30.00%	\$7,290	(E)
Mobilization	(4 to 10%) of (A+B+C+D+E) Default = 6%		6.00%	\$2,030	(F)
Contingencies	(15% - 30%) of (A+B+C+D+E+F)		25.00%	\$8,960	(G)
Total of Construction Bid Items	(A+B+C+D+E+F+G)			\$44,770	(H)
Total Construction Engineering	15% of (H)		15.00%	\$6,720	(I)
Total Final Engineering	10% of (H)		10.00%	\$4,480	(J)
Total Project Cost	(H+I+J)			\$56,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

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Opinion of Probable Cost
Project #10: Coal Creek Bridge

Date Prepared: August 28, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Removal of Sidewalk	SY	1,399	\$16	\$22,386	
Curb and Gutter (Type 2-IB)	LF	2,210	\$30	\$66,300	
Curb and Gutter (Type 2-IIB)	LF	2,302	\$28	\$64,456	
Hot Mix Asphalt (HMA)	TON	3,004	\$100	\$300,394	
Aggregate Base Course (ABC)	CY	1,298	\$50	\$64,903	
Concrete Sidewalk	SY	1,754	\$58	\$101,758	
Median Landscaped Area	SF	16,567	\$20	\$331,340	
Native Landscaped Area	SF	142,847	\$10	\$1,428,470	
Bridge Replacement	LS	1	\$3,789,300	\$3,789,300	
Relocate Ped Bridge	LS	1	\$50,000	\$50,000	
Trail Underpass	LS	1	\$0	\$0	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$6,229,306	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$6,229,306	(A)
Removals	6% of (A)		6.00%	\$373,760	(B)
Drainage	8% of (A)		5.00%	\$311,470	(C)
Erosion Control	(3-8%) of (A)		7.00%	\$436,060	(D)
Signing and Striping	1-5% of (A)		2.00%	\$124,590	(E)
Lighting	5% of (A)		5.00%	\$311,470	(F)
Utilities	10% of (A)		4.00%	\$249,180	(G)
Environmental	10% of (A)		8.00%	\$498,350	(H)
Construction Traffic Control	5 to 25% of (A)		8.00%	\$498,350	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$541,960	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$2,709,770	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$12,284,270	(L)
Total Construction Engineering	15% of (L)		15.00%	\$1,842,650	(M)
Total Final Engineering	12% of (L)		8.00%	\$982,750	(N)
Total Project Cost	(L+M+N)			\$15,110,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.
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Opinion of Probable Cost

Project #11: Erie Parkway restriping from Montgomery Drive to CR 5

Date Prepared: August 28, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$3,000	\$3,000	
Removal of Sidewalk	SY	573	\$16	\$9,173	
Removal of Pavement Marking	SF	5,317	\$1	\$5,317	
Epoxy Pavement Marking	GAL	53	\$150	\$7,975	
Concrete Sidewalk	SY	1,184	\$58	\$68,685	
Median Landscaped Area	SF	0	\$20	\$0	
Native Landscaped Area	SF	22,102	\$10	\$221,020	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$315,170	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$315,170	(A)
Erosion Control	(3-8%) of (A)		5.00%	\$15,760	(B)
Construction Traffic Control	5 to 25% of (A)		10.00%	\$31,520	(C)
Mobilization	(4 to 10%) of (A+B+C) Default = 6%		6.00%	\$21,750	(D)
Contingencies	(15% - 30%) of (A+B+C+D)		30.00%	\$115,260	(E)
Total of Construction Bid Items	(A+B+C+D+E)			\$499,460	(F)
Total Construction Engineering	15% of (F)		15.00%	\$74,920	(G)
Total Final Engineering	12% of (F)		12.00%	\$59,940	(H)
Total Project Cost	(F+G+H)			\$634,400	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

2. In providing opinions of probable construction cost, the Client understands that Felsburg Holt & Ullevig has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of our qualifications and experience. FHU makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Opinion of Probable Cost

Project #12: Erie Parkway Improvements from CR 5 to New CR 5 1/2

Date Prepared: August 28, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Curb and Gutter (Type 2-IB)	LF	5,766	\$30	\$172,980	
Curb and Gutter (Type 2-IIB)	LF	5,368	\$28	\$150,304	
Hot Mix Asphalt (HMA)	TON	8,277	\$100	\$827,683	
Aggregate Base Course (ABC)	CY	3,193	\$50	\$159,661	
Concrete Sidewalk	SY	5,550	\$58	\$321,881	
Median Landscaped Area	SF	28,918	\$20	\$578,360	
Native Landscaped Area	SF	110,991	\$10	\$1,109,910	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$3,330,779	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$3,330,779	(A)
Removals	3% of (A)		3.00%	\$99,930	(B)
Drainage	8% of (A)		8.00%	\$266,470	(C)
Erosion Control	(3-8%) of (A)		5.00%	\$166,540	(D)
Signing and Striping	1-5% of (A)		4.00%	\$133,240	(E)
Lighting	5% of (A)		5.00%	\$166,540	(F)
Utilities	10% of (A)		10.00%	\$333,080	(G)
Environmental	10% of (A)		10.00%	\$333,080	(H)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$499,620	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$319,760	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$1,598,790	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$7,247,830	(L)
Total Construction Engineering	15% of (L)		15.00%	\$1,087,180	(M)
Total Final Engineering	12% of (L)		12.00%	\$869,740	(N)
Total Project Cost	(L+M+N)			\$9,205,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.
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Opinion of Probable Cost

Project #13: Erie Parkway Improvements from New CR 5 1/2 to CR 7

Date Prepared: September 6, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Curb and Gutter (Type 2-IB)	LF	7,474	\$30	\$224,220	
Curb and Gutter (Type 2-IIB)	LF	7,568	\$28	\$211,904	
Hot Mix Asphalt (HMA)	TON	10,557	\$100	\$1,055,659	
Aggregate Base Course (ABC)	CY	4,073	\$50	\$203,638	
Concrete Sidewalk	SY	7,332	\$58	\$425,269	
Median Landscaped Area	SF	39,795	\$20	\$795,900	
Native Landscaped Area	SF	141,196	\$10	\$1,411,960	
Trail Underpass	LS	1	\$100,000	\$100,000	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$4,438,550	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$4,438,550	(A)
Removals	3% of (A)		3.00%	\$133,160	(B)
Drainage	8% of (A)		8.00%	\$355,090	(C)
Erosion Control	(3-8%) of (A)		5.00%	\$221,930	(D)
Signing and Striping	1-5% of (A)		4.00%	\$177,550	(E)
Lighting	5% of (A)		5.00%	\$221,930	(F)
Utilities	10% of (A)		10.00%	\$443,860	(G)
Environmental	10% of (A)		10.00%	\$443,860	(H)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$665,790	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$426,110	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$2,130,520	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$9,658,360	(L)
Traffic Signal	Lump Sum			\$250,000	(M)
Total Construction Engineering	15% of (L+M)		15.00%	\$1,486,260	(N)
Total Final Engineering	12% of (L+M)		12.00%	\$1,189,010	(O)
Total Project Cost	(L+M+N+O)			\$12,584,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.
 2. In providing opinions of probable construction cost, the Client understands that Felsburg Holt & Ullevig has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of our qualifications and experience. FHU makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Opinion of Probable Cost

Project #14: Erie Parkway Improvements from CR 7 to New CR 7 1/2

Date Prepared: September 6, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Curb and Gutter (Type 2-IB)	LF	8,103	\$30	\$243,090	
Curb and Gutter (Type 2-IIB)	LF	8,280	\$28	\$231,840	
Hot Mix Asphalt (HMA)	TON	13,106	\$100	\$1,310,616	
Aggregate Base Course (ABC)	CY	5,056	\$50	\$252,819	
Concrete Sidewalk	SY	8,747	\$58	\$507,339	
Median Landscaped Area	SF	36,220	\$20	\$724,400	
Native Landscaped Area	SF	161,244	\$10	\$1,612,440	
Trail Underpass	LS	1	\$100,000	\$100,000	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$4,992,544	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$4,992,544	(A)
Removals	3% of (A)		3.00%	\$149,780	(B)
Drainage	8% of (A)		8.00%	\$399,410	(C)
Erosion Control	(3-8%) of (A)		5.00%	\$249,630	(D)
Signing and Striping	1-5% of (A)		4.00%	\$199,710	(E)
Lighting	5% of (A)		5.00%	\$249,630	(F)
Utilities	10% of (A)		10.00%	\$499,260	(G)
Environmental	10% of (A)		10.00%	\$499,260	(H)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$748,890	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$479,290	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$2,396,440	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$10,863,850	(L)
Traffic Signal	Lump Sum			\$250,000	(M)
Total Construction Engineering	15% of (L+M)		15.00%	\$1,667,080	(N)
Total Final Engineering	12% of (L+M)		12.00%	\$1,333,670	(O)
Total Project Cost	(L+M+N+O)			\$14,115,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.
 2. In providing opinions of probable construction cost, the Client understands that Felsburg Holt & Ullevig has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made on the basis of our qualifications and experience. FHU makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Opinion of Probable Cost

Project #15: Erie Parkway Improvements from New CR 7 1/2 to I-25 SB Ramps

Date Prepared: September 6, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$10,000	\$10,000	
Curb and Gutter (Type 2-IB)	LF	6,967	\$30	\$209,010	
Curb and Gutter (Type 2-IIB)	LF	7,779	\$28	\$217,812	
Hot Mix Asphalt (HMA)	TON	12,906	\$100	\$1,290,629	
Aggregate Base Course (ABC)	CY	4,979	\$50	\$248,964	
Concrete Sidewalk	SY	6,849	\$58	\$397,268	
Median Landscaped Area	SF	37,336	\$20	\$746,720	
Native Landscaped Area	SF	92,998	\$10	\$929,980	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$4,050,382	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$4,050,382	(A)
Removals	3% of (A)		3.00%	\$121,520	(B)
Drainage	8% of (A)		8.00%	\$324,040	(C)
Erosion Control	(3-8%) of (A)		5.00%	\$202,520	(D)
Signing and Striping	1-5% of (A)		4.00%	\$162,020	(E)
Lighting	5% of (A)		5.00%	\$202,520	(F)
Utilities	10% of (A)		10.00%	\$405,040	(G)
Environmental	10% of (A)		10.00%	\$405,040	(H)
Construction Traffic Control	5 to 25% of (A)		15.00%	\$607,560	(I)
Mobilization	(4 to 10%) of (A+B+C+D+E+F+G+H+I) Default = 6%		6.00%	\$388,840	(J)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G+H+I+J)		30.00%	\$1,944,200	(K)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H+I+J+K)			\$8,813,690	(L)
Traffic Signal	Lump Sum			\$250,000	(M)
Total Construction Engineering	15% of (L+M)		15.00%	\$1,359,560	(N)
Total Final Engineering	12% of (L+M)		12.00%	\$1,087,650	(O)
Total Project Cost	(L+M+N+O)			\$11,511,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

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Opinion of Probable Cost
Project #16: Signalization of I-25 Ramp Intersections

Date Prepared: September 6, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Clearing and Grubbing	LS	1	\$5,000	\$5,000	
Permanent ROW	SF	0	\$25	\$0	
Permanent Easement	SF	0	\$15	\$0	
Total accounted construction items				\$5,000	(A)
	<u>% Range</u>		<u>% Used</u>		
Project Construction Bid Items (from above)	Project Dependent			\$5,000	(A)
Erosion Control	(3-8%) of (A)		3.00%	\$150	(B)
Signing and Striping	1-5% of (A)		3.00%	\$150	(C)
Lighting	5% of (A)		5.00%	\$250	(D)
Utilities	5% of (A)		5.00%	\$250	(E)
Construction Traffic Control	5 to 25% of (A)		10.00%	\$500	(F)
Mobilization	(4 to 10%) of (A+B+C+D+E+F) Default = 6%		6.00%	\$380	(G)
Contingencies	(15% - 30%) of (A+B+C+D+E+F+G)		30.00%	\$2,010	(H)
Total of Construction Bid Items	(A+B+C+D+E+F+G+H)			\$8,690	(I)
Traffic Signals	Lump Sum			\$500,000	(J)
Total Construction Engineering	15% of (I+J)		15.00%	\$76,310	(K)
Total Final Engineering	12% of (I+J)		12.00%	\$61,050	(L)
Total Project Cost	(I+J+K+L)			\$647,000	

1. Unit Costs based on average CDOT project bids, available on CDOT's website.

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Opinion of Probable Cost

Project #17: Landscaping of I-25 Interchange

(costs and quantities provided by Logan Simpson)

Date Prepared: May 15, 2017

FHU Ref # 115237-01

Prepared By: E. Stover

Project Construction Items	Unit	Quantity	Unit Cost (\$)	Total Cost	
Remove Attached Sidewalk	LF	3,000	\$20	\$60,000	
Coniferous trees (irrigated)	EA	44	\$550	\$24,200	
Deciduous trees (irrigated)	EA	48	\$450	\$21,600	
Ornamental trees (irrigated)	EA	24	\$200	\$4,800	
Coniferous shrub (irrigated)	SF	31,393	\$5	\$164,813	
Deciduous shrub (irrigated)	SF	27,668	\$5	\$145,257	
Ornamental grasses (irrigated)	SF	3,130	\$5	\$16,433	
Tree lawn-sod (irrigated)	SF	6,000	\$2	\$10,500	
Cobble mulch (planting areas and medians)	SF	51,000	\$2	\$102,000	
Sidewalk (detached)	SF	30,000	\$8	\$240,000	
Architectural feature	LS	2	\$50,000	\$100,000	
Monument entry sign	LS	2	\$50,000	\$100,000	
Median paving (splash guard)	SF	3,000	\$20	\$60,000	
Total accounted construction items				\$1,049,603	(A)
	% Range		% Used		
Project Construction Bid Items (from above)	Project Dependent			\$1,049,603	(A)
Contingencies	(15% - 30%) of (A)		25.00%	\$262,401	(B)
Total Project Cost	(A+B)			\$1,312,003	

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General Assumptions for All Cost Estimates

GENERAL

*for reconstruction projects, striping quantities included in "signing and striping" contingency, not quantified

*for restriping projects, striping quantities calculated and contingency removed

*Median L.A. is more expensive than Native L.A. because it would include irrigation and nicer plants/trees that would need to be maintained

*trail underpass cost ~\$100k

REMOVAL OF PAVEMENT MARKING (SF)

*all existing stripes are 4 inches wide

*skip stripe is 1/4 the total length of a of solid stripe

EPOXY PAVEMENT MARKING

*all stripes are 4 inches wide

*skip stripe is 1/4 the total length of a solid stripe

*100 SF=1 gallon

AGGREGATE BASE COURSE (CLASS 6)

*6 inch depth

*133 lbs/CF

HOT MIX ASPHALT (GRADING SX) (75) (PG 64-22)

*8 inch depth

*144 lbs/CF

BRIDGE REPLACEMENT

*new bridge deck ~\$150/SF