

March 2021 Project Recommendations



Master Plan

# East County Line Road/ Weld County Road 1

### **SEGMENT #1 - CITY OF LONGMONT**

Widening

Bridge Improvement/Replacement

### SEGMENT #2 - BOULDER/WELD COUNTY





### **SEGMENT #3 - TOWN OF ERIE**



### **Summary of Engineer's Opinion of Probable Cost**



Segment	Project	Project ID	Project Implementation Grouping	Construction Total	ROW Acquisition	Design Engineering	Total
Segment 1 City of Longmont	Ute/Highway 66 Intersection Capacity & Safety Improvements	L1	Long-Term	\$623,000	\$31,000	\$60,000	\$714,000
	Roadway Widening & Safety Improvements from Highway 66 to 17th Avenue	L2	Long-Term	\$4,120,000	<b>\$</b> 0	\$396,700	\$4,516,700
	17th Avenue Roundabout & Safety Improvements	L3	Mid-Term	\$1,738,000	\$144,000	\$167,400	\$2,049,400
	Roadway Widening & Safety Improvements from 17th Avenue to 9th Avenue	L4	Short- Term	\$2,252,000	\$400,000	\$216,800	\$2,868,800
	Deerwood Drive/WCR 26 Intersection Capacity & Safety Improvements	L5	Long-Term	\$703,000	<b>\$</b> 0	\$67,700	\$770,700
Ũ	Roadway Shouldering & Multi-Use Trail from Great Western/Zlaten Drive to Vrain Creek	L6	Short- Term	\$1,275,000	\$27,500	\$122,800	\$1,425,300
			Segment Subtotal:	<u>\$10,711,000</u>	<u>\$602,500</u>	<u>\$1,031,400</u>	<u>\$12,344,900</u>
	St. Vrain Pedestrian Bridge & Multi-Use Trail	C1	Short- Term	\$1,450,000	\$18,000	\$188,500	\$1,656,500
	Roadway Shouldering & Safety Improvements from Quicksilver Road to WCR 20.5	C2	Short- Term	\$1,374,000	\$75,000	\$132,300	\$1,581,300
	Replace Existing Dry Creek Bridge With Box Culvert & Overland Grading	C3	Short- Term	\$2,224,000	\$60,000	\$214,200	\$2,498,200
	WCR 20.5 Roundabout & Safety Improvements	C4	Short- Term	\$1,880,000	\$184,000	\$245,000	\$2,309,000
	Roadway Shouldering & Safety Improvements from WCR20.5 to Oxford Road	C5	Mid-Term	\$2,257,000	\$5,000	\$217,300	\$2,479,300
Segment 2	Oxford Road Roundabout & Safety Improvments	C6	Mid-Term	\$1,487,000	\$80,000	\$144,000	\$1,711,000
Boulder	Roadway Shouldering & Safety Improvements from Oxford Road to WCR16.5	C7	Mid-Term	\$475,000	\$o	\$45,700	\$520,700
County/Weld	WCR 16.5 Roundabout & Safety Improvements	C8	Mid-Term	\$1,662,000	\$47,500	\$160,100	\$1,869,600
County	Roadway Shouldering & Safety Improvements from WCR16.5 to Niwot Road	C9	Mid-Term	\$478,000	\$15,900	\$46,100	\$540,000
y	Niwot Road Roundabout & Safety Improvements	C10	Mid-Term	\$1,235,000	\$67,200	\$118,900	\$1,421,100
	Roadway Shouldering & Safety Improvements from Niwot Road to Highway 52	C11	Long-Term	\$1,343,000	\$12,600	\$129,300	\$1,484,900
	Replace Existing Boulder Creek Bridge	C12	Long-Term	\$5,500,000	\$75,000	\$715,000	\$6,290,000
	Highway 52 Intersection Safety Improvements	C13	Mid-Term	\$810,000	\$23,000	\$78,000	\$911,000
			Segment Subtotal:	<u>\$22,175,000</u>	<u>\$663,200</u>	<u>\$2,434,400</u>	<u>\$25,272,600</u>
	Roadway Widening & Safety Improvements from Highway 52 to Kenosha Road	E1	Long-Term	\$2,236,000	\$69,500	\$215,300	\$2,520,800
	Replace Existing ECLR/WCR Bridge over Coal Creek	E2	Long-Term	\$2,352,000	\$10,000	\$305,800	\$2,667,800
	Kenosha Road Roundabout, WCR 10.5 Roundabout and Connecting Roadway	E3	Mid-Term	\$2,625,000	\$162,700	\$252,800	\$3,040,500
Segment 3	Replace Existing Kenosha Road Bridge over Coal Creek	E4	Short- Term	\$5,500,000	\$50,000	\$715,000	\$6,265,000
Town of Erie	Roadway Widening & Safety Improvements from WCR 10.5 to Jay Road	E5	Mid-Term	\$2,980,000	\$103,100	\$287,000	\$3,370,100
	Jay Road Intersection Capacity & Safety Improvements	E6	Short- Term	\$1,311,000	\$14,700	\$126,200	\$1,451,900
			Segment Subtotal:	<u>\$17,004,000</u>	<u>\$410,000</u>	<u>\$1,902,100</u>	<u>\$19,316,100</u>
1. Projects L1 and	L2 could be combined into one (1) bid package.						
2. Projects C3 and	C4 could be combined into one (1) bid package.		ΤΟΤΑΙ	\$40 800 000	¢1 675 500	¢= 26= 000	¢=6 000 600
3. Project implem	entation recommendation is based on several factors and is subject to change, see Master Plan.	IUIAL	<b>φ</b> 49,090,000	φ1,0/5,/00	<b>@</b> ე, <b>3</b> 0/,900	<b>#50,933,000</b>	
4. Estimated costs	s are in 2021 dollars.						





### SEGMENT #1 RECOMMENDATION (L1): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT UTE/HIGHWAY 66

### **OVERVIEW**

Project Description	<ul> <li>Improve the existing signalized intersection at ECLR/WCR 1 and Highway 66. ECLR/WCR 1 would be 5-lanes south of Highway 66 with a detached multiuse pathway on the west side. Future movements would include dual westbound left-turns off Highway 66. City of Longmont property west of the roadway would allow for future widening to avoid or minimize the need for acquisition of right-of-way from property owners east of ECLR/WCR 1.</li> </ul>
Public Input	Public comments suggest concerns for traffic speed, bicyclist safety, right-of-way acquisition and congestion. Comments and polls were mostly in support of the proposed recommendation's ability to meet the multiple community needs.
Project Alternatives	The Colorado Department of Transportation (CDOT) has prepared a Planning and Environmental Linkages (PEL) Study on State Highway 66. The PEL study suggests that a future grade separated intersection may be required at this intersection. This ECLR/WCR 1 study projects that a signalized intersection with 5-lanes on ECLR/WCR 1 would function acceptably through the year 2040.
Recommendation	Installation of new upgraded signalized intersection to meet 2040 multimodal traffic projections.

### **RECOMMENDED IMPROVEMENTS**



### **PROJECT PRIORITIES**

Safety	Accidents are moderately high at this intersection, with a large amount being 'rear- end' accidents. The proposed design would need to take existing crash data into account.
Mobility	The signalized intersection should be designed to allow full movements for both pedestrians and bicyclists. The proposed City of Longmont park at the southwest corner of the intersection would be a major draw for multimodal regional traffic.
Resiliency	The project area is not located within a 100-year floodplain; however, culvert replacement and drainage improvements as part of the proposed intersection project, north of Spring Gulch No.2, would increase resiliency within the area.



### SEGMENT #1 RECOMMENDATION (L1): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT UTE/ HIGHWAY 66



#### East County Line Road/Weld County Road 1

Corridor Plan

#### -INTERSECTION CONFIGURATION MAY CHANGE IN FUTURE DESIGN

FUTURE PEL ROW

ALIGN THROUGH LANES TO MINIMIZE SHIFT

ECLR/WCR1 AND UTE/SH66 HIGHWAY LEGEND

 EXISTING RIGHT OF WAY
 PROPOSED RIGHT OF WAY BASED ON TYPICAL SECTIONS

PROPOSED EDGE OF ASPHALT





### SEGMENT #1 RECOMMENDATION (L3): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT 17<sup>TH</sup> AVENUE

(Preferred)

### **OVERVIEW**

Project Description	Improve safety and traffic flow through the existing stop- controlled "T" intersection at ECLR/WCR 1 and 17 <sup>th</sup> Avenue. The roundabout and approaches would include detached sidewalks, widened to accommodate bicyclists. The double- lane roundabout would help regulate/reduce speeds on ECLR/WCR 1 and avoid conflict with the electrical steel towers better than a signalized intersection would.		
Public Input	Public requests include separated bike path or protected bike lane to the new Spring Gulch trail, safety issues with bicycle/pedestrian and vehicular mobility, and congestion. Comments and polls were mostly in support of the proposed recommendation. Comments indicated concern for the ability of other residents to adapt to a roundabout.		
Project Alternatives	<ul> <li>Alternatives including a traditional stop-controlled intersection and a roundabout intersection were analyzed:</li> <li>A. Roundabout – The center of the roundabout would be offset slightly west of ECLR/WCR 1. The roundabout would be designed to control traffic speeds. Raised medians and splitter islands would be installed at the approaches and departures.</li> <li>B. Signal – Due to the required turning lanes, this option would require a larger right-of-way take east of the road. The southbound right-turn lane would be very also to a stoel cloatricel towor.</li> </ul>		
Recommendation	A double-lane roundabout is recommended to improve safety by slowing vehicles through the intersection. A roundabout would reduce right-of-way takes east of the roadway.		

### **PROJECT PRIORITIES**

Safety	A roundabout would help control speeds on ECLR/WCR 1 and allow for raised medians for pedestrian refuge.			
Mobility	Mobility will improve with the new roundabout since delay times (especially on 17 <sup>th</sup> Avenue) will be decreased, and new wider detached sidewalks will be installed for pedestrians and cyclists.			
Resiliency	The project area is not located within a 100-year floodplain; however, culvert replacement and drainage improvements as part of the proposed project, north of Spring Gulch No.2, would improve resiliency within the area.			

### **ALTERNATIVES**





East County Line Road/Weld County Road 1



### SEGMENT #1: PREFERRED ALTERNATIVE (L3): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT 17<sup>TH</sup> AVENUE





### SEGMENT #1 RECOMMENDATION (L6): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1, GREAT WESTERN/ZLATEN DRIVE TO VRAIN CREEK

### **OVERVIEW**

Project Description	The proposed project would widen ECLR/WCR 1 between Zlaten Drive and the bridge over the St. Vrain Creek to allow for paved shoulders. The multiuse trail would be extended south to St. Vrain Creek and connect to the proposed pedestrian bridge over St. Vrain Creek.
Public Input	Need for pedestrian and bicycle improvements to improve safety, along with vehicular congestion issues. Comments and polls were in support of the proposed recommendation's ability to meet the multiple community needs.
Project Alternatives	N/A
Recommendation	Widening of ECLR/WCR 1 along is recommended to increase safety for motorists and bicyclists. Recommendations also include installing a traffic signal or roundabout at time of full buildout of the Springs at Sandstone Ranch development. Extending the multiuse trail would provide continuity to the Quicksilver underpass and trail system south of St. Vrain Creek.

### **PROJECT PRIORITIES**

Safety	Adding widened shoulders and an improved intersection would increase safety for both pedestrians and motorists. The detached trail would enable both pedestrians and bicyclists to be separated from motorists.
Mobility	Mobility for both pedestrians and bicyclists would be greatly improved with connectivity to the regional trail system in the area.
Resiliency	The southern portion of the project area is located within a 100-year floodplain associated with St. Vrain Creek. The roadway profile is above the 100-year. The possible use of roadway slope revetment/stabilization should be explored as part of the design.

### **RECOMMENDED IMPROVEMENTS**





### SEGMENT #1 RECOMMENDATION (L6): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1, GREAT WESTERN/ZLATEN DRIVE TO VRAIN CREEK





### SEGMENT #2 RECOMMENDATION (C3): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT DRY CREEK BRIDGE

### **OVERVIEW**

Project Description	Eliminate flows from the 100-year event from overtopping ECLR/WCR 1. This would require overland grading west of ECLR between Dry Creek and Quicksilver Road, and replacement of existing bridge with a box culvert.		
Public Input	blic Input Comments on the proposed recommendation were in overall support, with an interest to preserve silver maples trees along the east.		
Project Alternatives	<ul> <li>Four alternatives were evaluated (see all alternatives figure to right):</li> <li>1. Improve existing channel alignment – Improvements to the existing creek alignment and increase capacity to carry the 100-year flows. Install a new 100-year bridge at ECLR/WCR1 to allow 100-year flows.</li> <li>2. New spill channel – Redirect the Dry Creek channel west of ECLR/WCR 1 and run channel to the north to intercept the St. Vrain Creek upstream of the existing ECLR/WCR 1 bridge. Construct a bridge at Quicksilver to allow flows under the road. Historic flows within Dry Creek would be allowed to flow under ECLR/WCR 1 through a new box culvert structure.</li> <li>2A. Overland grading and raise ECLR/WCR 1 – similar to Alternative 2, storm water would be stopped west of ECLR/WCR 1 and allowed to flow to the St. Vrain Creek. However, instead of a deep channel and a bridge at Quicksilver Road, flows would be allowed to spread out and take a more natural path to the river.</li> <li>3. Overflow channel – This two-stage channel would divert most of the flows into a new channel located closer to N. 119<sup>th</sup> Street, which would drop into the St. Vrain River. Historic flows within Dry Creek would be allowed to flow</li> </ul>	(Preferred)	

In an effort to minimize improvements to the Dry Creek channel outside of the ECLR/WCR 1 corridor, Alternative 2A is the recommendation. Replacement of the Recommendation existing ECLR/WCR 1 Dry Creek Bridge with a box culvert and a slight lowering of Quicksilver Road to allow flood water overtopping will also be required.

under ECLR/WCR 1 through a new box structure.

### **PROJECT PRIORITIES**

Safety	Safety would be improved by allowing the roadway to stay open during the 100-year storm events, thereby allowing north-south passage during a flood emergency.
Mobility	Multi modal mobility through this section of the corridor would not be disrupted by storm flows less than the 100-year event.
Resiliency	The project area is located within a 100-year floodplain. Improvements would eliminate 100-year flows from overtopping the road. Improvements could supply roadway resiliency in storm event over 100-year.

### **ALTERNATIVES**





### SEGMENT #2 PREFERRED ALTERNATIVE (C3): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT DRY CREEK BRIDGE





### SEGMENT #2 RECOMMENDATION (C4): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT PIKE ROAD/WELD COUNTY ROAD 20.5

### **OVERVIEW**

	Improve the existing two-way stop-controlled intersection at ECLR/WCR
	1 and WCR 20.5/Pike Road with a single-lane roundabout to
<b>Project Description</b>	accommodate future traffic volumes. Major irrigation facilities with the
- J - I - I - I - I - I - I - I - I - I	existing ditch running diagonally under intersection should also be
	addressed with the proposed project, and coordination should be done
	with the ditch companies to accommodate improvements.
	Commentors on existing conditions shared that heavy traffic to and from
	WCR 20.5 creates need to improve operations to accommodate heavy
	commuter traffic from Weld County communities. Safety improvements
Public Input	needed especially due to high level of truck traffic and to accommodate
i ubiic input	bicycles. Slow traffic and make sure to accommodate wildlife crossings.
	Comments and polls on the proposed recommendations mostly support
	the proposed roundabout, specifically as useful way to truck traffic
	movement.
	A. Roundabout –Center of the roundabout would be offset southeast
	of the existing intersection to reduce impacts to the fire station
	and to maximize deflection of traffic entering the roundabout. To
	slow the traffic entering the roundabout. Raised medians and
	splitter islands would be installed at the approaches and
	departures. An optional slip lane on the northeast quadrant is
<b>Project Alternatives</b>	shown to better accommodate morning commuter traffic. The slip
-	ramp improvements could result in higher speeds and potential
	safety impacts.
	B. Signal – Addition of right-turn lanes and/or left-turn lanes in each
	direction. Installation of a new traffic signal to control movements
	and improve safety. The footprint would be wider than the
	roundabout and potentially increase off-peak hour delays.
	A single-lane roundabout would:
	• Increase safety by slowing vehicles though the intersection. Allow for
	'continuous' traffic flow – decreased delays.
Recommendation	Improve off-peak operations.
	No need for traffic signal maintenance
	Decreased congestion and emissions
	• Decreased congestion and emissions.

### **PROJECT PRIORITIES**

Safety	Slower traffic, raised median would separate traffic, reduce severity of accidents.
Mobility	Vehicles would navigate the roundabout intersection without having to stop. Speeds would be reduced within the roundabout to approximately 15-20 MPH, bicyclists would be able to ride through the roundabout without being overtaken by a vehicle, and a raised median would provide pedestrian refuge.
Resiliency	The project area is not located within a 100-year floodplain; however, culvert replacement and drainage/irrigation improvements along this stretch of roadway between Dry Creek and Boulder Creek would increase resiliency.

East County Line Road/Weld County Road 1

### ALTERNATIVES





### SEGMENT #2: PREFERRED ALTERNATIVE (C4): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT PIKE/WELD COUNTY ROAD 20.5





### SEGMENT #2 RECOMMENDATION (C6): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT OXFORD ROAD

Alternative "B"

### **OVERVIEW**

	Improve the existing two-way stop-controlled intersection at	
	Oxford Road with a single-lane roundabout to accommodate	
<b>Project Description</b>	future traffic volumes and to address safety, sight distance, and	
	speeding issues. Adjacent historic graveyard northeast of	
	intersection must be protected.	
	Concern for traffic speed, safety for bicyclists, historic house &	
	cemetery, and agricultural/farm equipment access. Public	
	comments support a roundabout at this intersection to reduce	
	speed and widening shoulders along the corridor to protect	
Public Input	bicyclists. Comments and polls on the proposed recommendation	Alternative autions ((A))
	were mostly in support of the proposed roundabout, as the best	Alternative A
	option for slowing traffic and increasing safety for bicyclists and	(Proferred)
	motorists. Comments also noted interest to preserve trees,	(FIEJEIIEU)
	wildlife habitat and include wildlife crossings where possible.	
	A. Roundabout – The center of the roundabout would be offset	
	southeast of the existing intersection to improve sight	
	distance and avoid impacts to historic features. Approaches	
	to the roundabout would have curvilinear alignment to slow	
Project Alternatives	the traffic entering the roundabout. Raised medians and	
Project Alternatives	splitter islands would be installed at the approaches and	
	departures.	
	B. Signal controlled – Addition of right-turn lanes and/or left-	
	turn lanes in three of the four directions. Intersection could	
	be controlled by a traffic signal.	
	A single-lane roundabout is recommended for the following	
	reasons:	
	• Increase safety by slowing vehicles though the intersection.	
Recommendation	• Allow for 'continuous' traffic flow – decreased delays	
	Increase in sight distances.	
	• No need for traffic signal maintenance.	
	• Decreased congestion and emissions.	

### **PROJECT PRIORITIES**

Safety	Slower traffic, raised median would separate traffic, reduce severity of accidents. Improvement to sight distance.	
Mobility	Vehicles would navigate the roundabout intersection without having to stop. Speeds would be reduced within the roundabout to approximately 15-20 MPH, bicyclists would be able to ride through the roundabout without being overtaken by a vehicle. Raised median would provide pedestrian refuge.	
Resiliency	The project area is not located within a 100-year floodplain; however, culvert replacement and drainage/irrigation improvements along this stretch of roadway between Dry Creek and Boulder Creek would increase resiliency.	

East County Line Road/Weld County Road 1

**ALTERNATIVES** 





Corridor Plan

13



### SEGMENT #2: PREFERRED ALTERNATIVE (C6): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT OXFORD ROAD





### SEGMENT #2 RECOMMENDATION (C6A): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1, AREA PROJECT COORDINATION

### **OVERVIEW**

Project Description	This project worksheet has been added to illustrate the potential addition of two roundabouts at both 119 <sup>th</sup> Street and 115 <sup>th</sup> Street and Oxford Road to control speeds and improve the safety of the intersections.
Public Input	Public comments suggest concerns with traffic speed, unsafe passing, and safety for bicyclists on Oxford Road. Comments and polls on the proposed recommendation were in support.
Project Alternatives	<ul><li>A. Construct roundabouts as part of future roadwork. Size and design to be determined.</li><li>B. Maintain existing stop-controlled intersections.</li></ul>
Recommendation	While the addition of future roundabouts at 115 <sup>th</sup> and 119 <sup>th</sup> Streets and Oxford Road were not analyzed as part of the ECLR/WCR 1 Masterplan, the additional roundabouts may provide traffic calming and reduce serious accidents.

### **PROJECT PRIORITIES**

Safety	General safety improvements realized by the addition of roundabouts including slower traffic and raised medians to separate traffic and reduce severity of accidents.
Mobility	Vehicles would navigate roundabout intersections without having to stop. Since speeds would be reduced within the roundabouts to approximately 15-20 MPH, bicyclists would be able to ride through the roundabout without being overtaken by a vehicle.
Resiliency	Not analyzed as part of the ECLR/WCR 1 Master Plan.

## **RECOMMENDED PROJECT COORDINATION**





### SEGMENT #2 RECOMMENDATION (C6A): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1, AREA PROJECT COORDINATION





### SEGMENT #2 RECOMMENDATION (C8): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT WELD COUNTY ROAD 16.5

Alternative "A"

(Preferred)

Alternative "B"

### **OVERVIEW**

Project Description	Improvements to this intersection include reducing speeds, allowing for increased capacity, and improving safety. Traffic volume on WCR 16.5 is projected to increase as development to the east occurs. Recommended improvements also include removing the sub-standard vertical curve south of WCR 16.5 which will improve safety by increasing visibility and access to and from the existing western driveways.
Public Input	Safety issues associated with passing on a double yellow line/speeding, and poor visibility/sight distance and adding a third lane through this area. Comments on the proposed recommendation were in support of the proposed roundabout as an effective solution to address multiple community concerns.
Project Alternatives	<ul><li>A. Construct a single lane roundabout slightly northeast of the current intersection. Existing driveways would reconfigure to allow safe access to the roundabout.</li><li>B. Add a center turn lane to WCR 16.5 to improve access for left turning vehicles and reduce the chance of a rear end collision for turning vehicles.</li></ul>
	C. Add a raised median to WCR 16.5 to control access. Re- route driveways and create a common driveway across from WCR 16 <sup>1</sup> / <sub>2</sub> . This alternative would severely restrict access relative to Alternative "B".
Recommendation	Alternative "A" is recommended because it does the best job of fulfilling the project objectives of lowering speeds, increasing safety, and allowing for future increased capacity. Alternative "A" is also the alternative desired by adjacent property owners.

### **PROJECT PRIORITIES**

Safety	Slower traffic, raised median would separate traffic, reduce severity of accidents. Improving the vertical profile of the roadway would increase sight distance and safety.
Mobility	Vehicles would navigate the roundabout intersection without having to stop. Speeds would be reduced within the roundabout to approximately 15-20 MPH, bicyclists would be able to ride through the roundabout without being overtaken by a vehicle. Raised median would provide pedestrian refuge.
Resiliency	The intersection is not located within a 100-year floodplain; however, culvert replacement and drainage improvements at this location between Dry Creek and Boulder Creek would increase resiliency.

### **ALTERNATIVES**





#### East County Line Road/Weld County Road 1



### SEGMENT #2: PREFERRED ALTERNATIVE (C8): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT WELD COUNTY ROAD 16.5





### SEGMENT #2 RECOMMENDATION (C10): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT NIWOT ROAD

Alternative "A"

(Preferred)

### **OVERVIEW**

Project Description	The proposed project at ECLR/WCR 1 and Niwot Road would improve the existing one-way stop-controlled intersection with a new single-lane roundabout and reduce excessive speeds when coupled with other roundabouts along the corridor.	
Public Input	Public concerns included safety and mobility issues associated with lack of bicycle facilities, speed, commuter traffic, sight distance, and heavy industrial truck traffic. Comments and polls on the proposed recommendation were mostly in support, with some concerns on the ability of other drivers to safety adapt to a roundabout.	
	Two intersection alternatives were analyzed:	
Project Alternatives	<ul> <li>A. Roundabout – The center of the roundabout would be roughly equal to the center of the existing intersection. Approaches to the roundabout would have curvilinear alignment to slow the traffic entering the roundabout. Raised medians and splitter islands would be installed at the approaches and departures.</li> </ul>	
	<ul> <li>B. Stop-controlled – Addition of a southbound right-turn lanes and a northbound left-turn lane and wider shoulders on both sides.</li> </ul>	
Recommendation	A single-lane roundabout is recommended to increase safety by slowing vehicles though the intersection. A roundabout is not required for traffic congestion purposes but is recommended as a traffic calming alternative.	

### PROJECT PRIORITIES

Safety	Safety would be improved with slower traffic, and the raised median would separate traffic and reduce severity of accidents.	
Mobility	Vehicles would be able to navigate the roundabout intersection without having to stop. Speeds would be reduced within the roundabout to approximately 15-20 MPH, bicyclists would be able to ride through the roundabout without being overtaken by a vehicle and raised medians would provide pedestrian refuge.	
Resiliency	The project area is not located within a 100-year floodplain; however, culvert replacement and drainage/irrigation improvements along this stretch of roadway between Dry Creek and Boulder Creek would increase resiliency.	

### ALTERNATIVES





East County Line Road/Weld County Road 1



### SEGMENT #2 PREFERRED ALTERNATIVE (C10): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT NIWOT ROAD





### SEGMENT #2 RECOMMENDATION (C12): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT BOULDER CREEK BRIDGE

### **OVERVIEW**

Project Description	Replace the existing bridge with new structure(s) which would pass 100-year flows under ECLR/WCR 1. Due to current creek configuration and a non-standard bridge, less than 30% of 2013 flood flows passed under the roadway. The remaining 70% flowed over the road, both south and north of the bridge.
Public Input	Comments and polls on the proposed recommendation were in support. Comments included interest for options for cyclists during construction.
Project Alternatives	N/A
Recommendation	Develop a design which includes a combination of improvements to Boulder Creek and the construction of new bridge structures to allow 100-year flows to pass under the roadway.

### **RECOMMENDED IMPROVEMENT**



### **PROJECT PRIORITIES**

Safety	Safety would be improved by allowing the roadway to stay open, thereby allowing north-south passage during a flood emergency. Wider shoulders and higher barriers would provide safety for cyclist.
Mobility	Multi modal mobility through this section of the corridor would not be disrupted by storm flows less than the 100-year event. Bridge would be widened to allow for standard shoulders.
Resiliency	The project area is located within a 100-year floodplain. Improvements would eliminate 100-year flows from overtopping the road and reduce the area of the Boulder Creek floodplain near the bridge. Improvements could supply roadway resiliency in storm event over 100-year.



### SEGMENT #2 RECOMMENDATION (C12): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT BOULDER CREEK BRIDGE





### SEGMENT #2 RECOMMENDATION (C13): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT MINERAL ROAD/ HIGHWAY 52

### **OVERVIEW**

Project Description	Existing traffic signals are operated by the Colorado Department of Transportation (CDOT). Traffic analyses indicate that southbound and northbound right turn lanes would be needed to accommodate 2040 volumes of ECLR/WCR 1. Additionally, there is a need to increase storage and add shoulders.
Public Input	Public comments suggest the need for improved signal timing, addition of turn lanes and increased driveway spacing away from the intersection. Comments and polls on the proposed recommendation were mostly in support.
Project Alternatives	CDOT is in the early stages of preparing a Planning and Environmental Linkages (PEL) Study on State Highway 52. Future designs at this intersection must be coordinated with CDOT.
Recommendation	<ul> <li>The addition of southbound and northbound right turn lanes and designing additional storage length to the existing right and left turn lanes.</li> <li>Future widening should occur west of the existing right-of-way as not to further encroach into the residential property on the northeast corner.</li> </ul>

### **PROJECT PRIORITIES**

Safety	Accidents are moderately high at this intersection, with a large amount being 'rear-end' accidents. The addition and improvement of turn lanes, along with the addition of shoulders should increase safety on ECLR/WCR 1.
Mobility	Improvements to the signalized intersection should be designed to allow full movements for both pedestrians and bicyclists. Added/improved turn lanes would reduce motorist delay.
Resiliency	The project area is located within the Boulder Creek 100-year floodplain; therefore, intersection improvements would need to consider resiliency features such as slope revetment/stabilization and drainage improvements.

### **RECOMMENDED IMPROVEMENTS**





### SEGMENT #2 RECOMMENDATION (C13): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT MINERAL ROAD/ HIGHWAY 52





### SEGMENT #3 RECOMMENDATION (E2): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT COAL CREEK BRIDGE

### **OVERVIEW**

Project Description	Replace the existing bridge with a new structure which would pass 100-year flows under ECLR/WCR 1. Icon Engineering completed a conceptual design of a new bridge in 2018. The proposed channel and bridge location would be dependent on the selected improvements of Kenosha Road included in project E1 of this master plan.
Public Input	Comments and polls on the proposed recommendation were in support.
Project Alternatives	The location of the proposed bridge would be dependent on the selected improvements of Kenosha Road included in project E1 of this master plan.
Recommendation	Develop a design to include a combination of improvements to Coal Creek and the construction of new bridge structure to allow 100-year flows to pass under the roadway.

### **RECOMMENDED IMPROVEMENT**



### **PROJECT PRIORITIES**

Safety	Safety would be improved by allowing the roadway to stay open, thereby allowing north-south passage during a flood emergency.
Mobility	Multimodal mobility through this section of the corridor would not be disrupted by storm flows less than the 100-year event. A proposed regional multi-use trail along Coal Creek would greatly increase non-motorized mobility.
Resiliency	The project area is located within a 100-year floodplain. Improvements would eliminate 100-year flows from overtopping the road and reduce the area of the Coal Creek floodplain near the bridge. Improvements could supply roadway resiliency in storm event over 100-year.



### SEGMENT #3 RECOMMENDATION (E2): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT COAL CREEK BRIDGE





### SEGMENT #3 RECOMMENDATION (E3): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT KENOSHA RD/WELD COUNTY RD 10.5

Alternative "A"

(Preferred)

Alternative "B"

Alternative "C"

### **OVERVIEW**

Project Description	This proposed realignment project includes two intersections along ECLR/WCR 1, the first at Kenosha Road and the second at WCR 10.5. The two intersections are currently offset by a quarter of a mile. All alternatives are designed to handle 2040 traffic.
Public Input	Public comments suggest the need for improved safety for bicyclists and pedestrians, difficult vehicular turning movements, and poor visibility. Comments and polls on the proposed recommendation were mostly in support, with some concerns on the ability of other drivers to safety adapt to a roundabout. Input suggested that the proposed recommendation would make it safer to turn left from Kenosha onto ECLR/WCR1. Commentors also expressed interest to understand the ways that a roundabout design could handle large farm tractors and equipment. Input also suggested an interest to understand options for safe cyclist use of roundabouts and much safer to turn left from Kenosha onto Countyline.
Project Alternatives	<ul> <li>Three alternatives were analyzed:</li> <li>A. Double Roundabouts– Both the Kenosha Road and WCR 10.5 intersections would receive a 3-legged roundabout.</li> <li>B. Roundabout and stop-control – The addition of a roundabout at Kenosha, and the addition of right turn and left turn lanes at the WCR 10.5 intersection. WCR 10.5 would remain stop sign controlled.</li> <li>C. Single Roundabout – Realign Kenosha Road to the southeast to align with WCR 10.5. WCR 10.5 would also be realigned to the northwest as illustrated in the exhibit. A roundabout would be added to intersect/combine all four roadway legs into one intersection.</li> </ul>
Recommendation	It is recommended that a single lane roundabout be added at both the Kenosha Road/ECLR and WCR 10.5/ECLR intersections to increase safety by slowing vehicles though the intersections. A new bridge over Coal Creek would be installed just south of WCR 10.5.

### **PROJECT PRIORITIES**

Safety	Slower traffic, raised median would separate traffic, reduce severity of accidents at Kenosha and at WCR 10.5.
Mobility	Vehicles would navigate the roundabout intersections without having to stop. Since speeds would be reduced within the roundabout to approximately 15-20 MPH, bicyclists would be able to ride through the roundabout without being overtaken by a vehicle. The addition of the roundabouts would decrease vehicle delays.
Resiliency	The project area is located within the 100-year floodplain of Boulder Creek/Coal Creek; therefore, intersection and roadway improvements would be designed in conjunction with the flood improvement design.

### **ALTERNATIVES**



East County Line Road/Weld County Road 1



### SEGMENT #3 RECOMMENDATION (E3): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT KENOSHA RD/WELD COUNTY RD 10.5





### SEGMENT #3 RECOMMENDATION (E4): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1, KENOSHA ROAD AT COAL CREEK BRIDGE

### **OVERVIEW**

Project Description	Replace the existing bridge with a new structure which would pass 100-year flows under Kenosha Road. This project would be completed in conjunction with projects E3 (Kenosha Road/WCR 10.5) of this master plan. Icon Engineering completed a Coal Creek Restoration Plan that can assist with design.
Public Input	Comments and polls on the proposed recommendation were in support. Commentors expressed interest to better understand the interaction between the proposed recommendation and Erie's plan to extend the Coal Creek Trail adjacent to the (realigned) Coal Creek drainage, as well as the interaction between the bike lanes in the proposed recommendation and additional bike lanes in other planning efforts.
Project Alternatives	N/A
Recommendation	Develop a design to include a combination of improvements to Coal Creek and the construction of new bridge structure to allow 100-year flows to pass under the roadway.

### **PROJECT PRIORITIES**

Safety	Safety would be improved by allowing the roadway to stay open, thereby allowing East-West passage and access to ECLR during a flood emergency. Shoulders would be widened on the bridge.
Mobility	Multi modal mobility through this section of the corridor would not be disrupted by storm flows less than the 100-year event.
Resiliency	The project area is located within a 100-year floodplain. Improvements would eliminate 100-year flows from overtopping Kenosha road and reduce the area of the Coal Creek floodplain near the bridge.

### **RECOMMENDED IMPROVEMENT**





### SEGMENT #3 RECOMMENDATION (E4): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1, KENOSHA ROAD AT COAL CREEK BRIDGE





### SEGMENT #3 RECOMMENDATION (E6): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT JAY ROAD/CHEESMAN STREET

(Preferred)

Alternative "B"

### **OVERVIEW**

Project Description	The proposed project would improve the ECLR/WCR 1 and Jay Road/Cheesman Street four-way stop-controlled intersection with a traffic signal to meet future traffic demand. Intersection improvements would be designed to improve approaches and bicycle and pedestrian safety in a school zone area.	
Public Input	Public comments suggest concerns for child safety/sidewalk, bicycle and crosswalk improvements and congestion near the elementary school, traffic, visibility issues and speeding. Comments and polls on the proposed recommendations were mostly in support, with a shared interest to preserve the small- town character of the area.	
Project Alternatives	<ul> <li>Two alternatives were analyzed:</li> <li>A. Traffic Signal – Addition of left turn and right-turn lanes. The addition of a traffic signal.</li> <li>B. Roundabout – The center of the roundabout would be north of the existing intersection. Approaches to the roundabout would have curvilinear alignment to slow the traffic entering the roundabout. Raised medians and splitter islands would be installed at the approaches and departures. This option would require large right-of-way takes.</li> </ul>	
Recommendation	<ul> <li>A conventional signalized intersection is recommended at this intersection for the following reasons:</li> <li>Less right-of-way acquisition and impacts to adjacent businesses, compared to a roundabout.</li> <li>More conventional intersection for bicycle and pedestrian crossing, especially elementary students.</li> </ul>	

### **PROJECT PRIORITIES**

Safety	Safety would be improved with widened shoulders and turn lanes. The traffic signal would be design with the nearby schools in mind.
Mobility	Added lanes would increase vehicle mobility. The traffic signal would increase mobility for pedestrians and bicyclists as future traffic volumes increase. Connectivity to regional trail system would also improve mobility.
Resiliency	The project area is not located within a 100-year floodplain; however, proposed drainage and intersection improvements would increase resiliency south of Coal Creek.

East County Line Road/Weld County Road 1

### **ALTERNATIVES**







### SEGMENT #3: PREFERRED ALTERNATIVE (E6): EAST COUNTY LINE ROAD/WELD COUNTY ROAD 1 AT JAY ROAD/CHEESMAN STREET

