Appendix G: Alternative Matrices

1. Level 1 Evaluation Matrix

2. Level 2 Evaluation Matrix

Appendix G-1
Level 1 Evaluation Matrix

Category							Increase Safety						Accommodate Increased Travel and Freight Demand					Support Multimodal Connections				Action	Notes
Performance Measures							Potential to improve safety						Potential to accommodate projected travel and freight demand					Potential to increase and not preclude multimodal mobility					
							Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N		
Location	General Purpose Lanes	To Build	Specialty Lane	Shoulder	Bike/Peds		Crash Frequency	Crash Severity	Ped/Bike Safety	Roadway Geometry	Truck/Oversize Vehicle Safety	Freight Safety	Congestion	Corridor Capacity	Travel Times	Travel Reliability	Quality of Traffic Operations	Local and Regional Route Connectivity	Transit Opportunities	Bicycle Connectivity	Pedestrian Crossings	Carried Forward Retained as Element Eliminated	
Segment 1 - West of 71st St. to County Line Road	EXCLUDED AREA: CO 119 to immediately west of 71st Street - Alternatives will be considered by CO 119 teams																						
West of 71st St. to County Line Road	2-Lanes	No Build	-	8'	Shoulder		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
		Typical	-	10'	Bikes on shoulder		Y	Y	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Carried Forward	Assumes parallel bike and transit facilities (bike lanes at intersections and bikes on shoulders.)
			Peak Period Shoulder Lane	12'	Multi-Use Path		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
			Alternating Passing Lane	10'	Multi-Use Path		N	Y	Y	N	N	N	Y	N	N	N	N	Y	Y	Y	Y	Eliminated	Configuration does not accommodate access or traffic needs along the segment.
			Reversible Lane	10'	Multi-Use Path		N	N	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Eliminated	Configuration does not accommodate access or traffic needs along the segment.
			2 HOV/Managed Lanes	10'	Multi-Use Path		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
	4-Lanes	Typical	-	10'	Bikes on shoulder		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	Assumes parallel bike and transit facilities (bike lanes at intersections and bikes on shoulders.)
Segment 2 - County Line Road to WCR 19	CO Line Rd. to WCR 7	2-Lanes	No Build	-	8-10'	Shoulder		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
			Typical	-	10'	Bikes on shoulder		Y	Y	Y	Y	Y	Y	N	N	N	N	N	Y	N	N	Y	Carried Forward	
			Typical	2 HOV/Managed Lanes	10'			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Eliminated	Demand for HOV/Managed Lane would not be sufficient
		4-Lanes	Typical	-	10'			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Carried Forward Carried Forward	Median/Turn Lane type to be evaluated at Level 2. Does not have the potential to improve Bicycle Connectivity because the existing shoulder is the same width (10') as needed to accommodate bikes on shoulders.
	WCR 7 to SB I-25 Frontage Road	2-Lanes	No Build	-	8-10'	Shoulder		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
			Typical	-	10'	Bikes on shoulder		Y	Y	Y	Y	Y	Y	N	N	N	N	N	Y	N	N	Y	Carried Forward	
				2 HOV/Managed Lanes	10'	Multi-Use Path		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Eliminated	Demand for HOV/Managed Lane would not be sufficient
		4-Lanes	Typical	-	10'	Bikes on shoulder		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Carried Forward Carried Forward	Median/Turn Lane type to be evaluated at Level 2. Does not have the potential to improve Bicycle Connectivity because the existing shoulder is the same width (10') as needed to accommodate bikes on shoulders.
				-	Urban	Peds on sidewalk, bike lanes		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Carried Forward	Does not have the potential to improve Bicycle Connectivity because the existing shoulders 10' in width which already accommodates bikes.
		6-Lanes	Typical	-	Urban	Peds on sidewalk, bike lanes																	Carried Forward	Does not have the potential to improve Bicycle Connectivity because the existing shoulders 10' in width which already accommodates bikes.
	EXCLUDED AREA: I-25 between southbound frontage road to northbound frontage road. Make corridor recommendation up to frontage roads.																						
	Northbound I-25 Frontage Rd to MP 15 (Fredrick/Dacono)	2-Lanes	No Build	-	8-10'	Shoulder		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
		4-Lanes	Typical	-	Urban	Peds on sidewalk, bike lanes		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
		6-Lanes	Typical	-	Urban	Peds on sidewalk, bike lanes		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
	MP 15 - WCR 19 (Reverse Curves)	2-Lanes	No Build	-	8-10'	Shoulder		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
			Typical	2 HOV/Managed Lanes	10'			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Eliminated	Demand for HOV/Managed Lane would not be sufficient
		4-Lanes	Typical	-	10'	Bikes on shoulder		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Carried Forward Carried Forward Carried Forward	Median/Turn Lane type to be evaluated at Level 2. Does not have the potential to improve Bicycle Connectivity because the existing shoulder is the same width (10') as needed to accommodate bikes on shoulders.

Category							Increase Safety						Accommodate Increased Travel and Freight Demand					Support Multimodal Connections				Action	Notes
Performance Measures							Potential to improve safety						Potential to accommodate projected travel and freight demand					Potential to increase and not preclude multimodal mobility					
							Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N		
Location		General Purpose Lanes	To Build	Specialty Lane	Shoulder	Bike/Peds	Crash Frequency	Crash Severity	Ped/Bike Safety	Roadway Geometry	Truck/Oversize Vehicle Safety	Freight Safety	Congestion	Corridor Capacity	Travel Times	Travel Reliability	Quality of Traffic Operations	Local and Regional Route Connectivity	Transit Opportunities	Bicycle Connectivity	Pedestrian Crossings	Carried Forward Retained as Element Eliminated	
Segment 3 - WCR 19 to WCR 31	WCR 19 to US 85 SB Ramps	2-Lanes	No Build	-	6-8'	Bikes on shoulder	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
			Typical	-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	Y	Y	Eliminated	Minimal benefit to safety over No Build option.
				-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	Y	Y	Eliminated	Precluding passing reduces operational performance; limited safety benefit over No Build option.
				Peak Period Shoulder Lane	12'	None	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Eliminated	Precluding passing reduces operational performance; limited safety benefit over No Build option.
				Alternating Passing Lane	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
				Reversible Lane	10'	Bikes on shoulder	N	N	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Eliminated	Configuration does not accommodate access or traffic needs along the segment.
		4-Lanes	Typical	-	10'	Bikes on shoulder	N	N	Y	Y	N	N	Y	Y	Y	Y	N	Y	N	Y	Y	Eliminated	Due to density of access points an alternative without median is eliminated for safety.
				-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Carried Forward	
				-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Carried Forward	
	EXCLUDED AREA: North and southbound US 85 ramps. Project team to make corridor recommendations for CO 52. There will not be any recommendations made for the CO 52/US 85 interchange.																						
	US 85 NB Ramps to WCR 31 (Ft. Lupton)	2-Lanes	No Build		Urban	None	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
			Typical		Urban	10' Multi-Use Path (North Side), 5' Sidewalk (South Side)	N	N	Y	N	N	N	N	N	N	N	N	Y	N	Y	Y	Carried Forward	
		4-Lanes	Typical		Urban	10' Multi-Use Path (North Side), 5' Sidewalk (South Side)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
		Bypass		Bypass			Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y	Y	Eliminated	Evaluation was filled out by route perspective (SH 52), some outcomes may vary if evaluated at regional level. (per the City of Ft. Lupton concern for economic vitality with a bypass)
Segment 4 - WCR 31 to WCR 49	WCR 31 to WCR 43	2-Lanes	No Build	-	2'	None	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
			Typical	-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	Y	Y	Eliminated	Minimal benefit to safety over No Build option.
			Typical	-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	Y	Y	Eliminated	Precluding passing reduces operational performance; limited safety benefit over No Build option.
			Typical	Peak Period Shoulder Lane	12'	None	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Eliminated	Precluding passing reduces operational performance; limited safety benefit over No Build option.
			Typical	Alternating Passing Lane	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
			Typical	Reversible Lane	10'	Bikes on shoulder	N	N	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Eliminated	Configuration does not accommodate access or traffic needs along the segment.
		4-Lanes	Typical	-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
	EXCLUDED AREA: I-76 from WCR 43 to Dahlia St. Interchange constructed in 2020/2021.																						
	Dahlia St. to WCR 49 (Hudson)	2-Lanes	No Build	-	2-10'	None	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Carried Forward	
			Typical	-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Carried Forward	
		4-Lanes	Typical	-	10'	Bikes on shoulder	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
		2-Lanes	Typical	-	N/A	Peds on sidewalk, bike lanes	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Carried Forward	
		2-Lanes	Typical	-	N/A	Peds on sidewalk, bike lanes	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
Segment 5 - WCR 49 to CO 79	Full Segment 5	2-Lanes	No Build	-	0'-8'	None	N	N	N	N	N	N	Y	Y	Y	Y	Y	N	N	N	N	Carried Forward	
			Typical	-	10'	Bikes on shoulder	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Carried Forward	
Intersection Type			Element	Traditional Intersection Improvements			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Retained as an Element	To be further analyzed in Level 2
			Element	Non-Traditional Intersection Improvements			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Retained as an Element	To be further analyzed in Level 2
			Element	Grade Separated Interchange			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Retained as an Element	To be further analyzed in Level 2
			Element	Roundabout			Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Retained as an Element	To be further analyzed in Level 2
Other Elements			Element	Transit Accommodations			N	N	N	N	N	N	N	Y	N	Y	N	Y	Y	Y	Y	Retained as an Element	To be further analyzed in Level 2
			Element	Transportation Technology (Active Traffic Management)			Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	N	N	N	N	Retained as an Element	To be further analyzed in Level 2
			Element	Wildlife Crossings			Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Retained as an Element	To be further analyzed in Level 2
			Element	Multi-Use Path			Y	Y	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Retained as an Element	To be further analyzed in Level 2
			Element	Enhanced Bike/Pedestrian Crossings			N	N	Y	Y	N	N	N	N	N	N	N	Y	N	Y	Y	Retained as an Element	To be further analyzed in Level 2
			Element	Traffic Signal Optimization			N	N	N	N	N	N	Y	Y	Y	Y	Y	N	N	N	N	Retained as an Element	To be further analyzed in Level 2
			Element	Travel Demand Management (TDM)			N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Retained as an Element	To be further analyzed in Level 2

Appendix G-2
Level 2 Evaluation Matrix

Category							Increase Safety						Accommodate Increased Travel and Freight Demand					Support Multimodal Connections				Consider the Natural and Built Environment		Support Local and Regional Planning Efforts	Identify Estimated ROW Needs		Accommodate Future Technology	Action	Notes
Performance Measures							Meets Design Standards	Reduce vehicle/pedestrian conflict.	Reduce Level of Traffic Stress (LTS) for bicycles	Crash reduction potential for bicycle/vehicle crashes	Reduce frequency and severity of crashes.	Incorporates bicycle design standards and guidelines	Accommodates Freight Movements (Includes Hazmat and Oversized Vehicles)	Decrease Travel Time Index (TTI)	Increase Reliability	Decrease Travel time by minutes	Decrease Delay	Improve N/S pedestrian and bicycle travel connections	Improve continuity for E/W bicycle and/or pedestrian travel	Improves Bicycle Level of Service	Accommodates potential future transit options	Identification of critical resources impacted based on footprints. No quantitative impacts will be done.	Qualitative measurement of context sensitive approach of land use and character along the corridor	Relative improvement/spatial alignment with goals of local agency plans	Complexity of acquisition based on impacts to primary structures and/or land use type	Relative expected ROW cost	Accommodate present and future implementation of emerging, existing and future technology	Action	Notes
	Location	Lanes	To Build	Shoulder	Median/Turn Lane	Bike/Peds	No Exceptions/Variances 1 Exception/Variance More than 1 Exception/Variance	Substantial Moderate No Change Worsens				Exceeds Minimum Meets Minimum Does Not Meet Minimum	Improves Neutral Limits	Substantial Moderate No Change Worsens	Based on PTI Comparison	Substantial Moderate No Change Worsens		Substantial Moderate Minor No Change		Major Substantial Moderate Minor No Change	Y/N	Number of critical resources present that will impact schedule, Resources identified but no impacts to schedule anticipated, No Critical Resources identified	High Medium Low	Good (closely aligned) Fair (some variations between alternatives) Poor (significant variations)	High Medium Low	$$$ (i.e. industrial) $$ (i.e. residential) $ (i.e. agricultural)	Y/N	Recommended Carried Forward Not Recommended Eliminated	
Segment 1 - West of 71st St. to County Line Road	EXCLUDED AREA: CO 119 to immediately west of 71st Street - Alternatives will be considered by CO 119 teams																												
	West of 71st St. to County Line Road	2 Lanes	No Build	8'	At Intersections	Shoulder	No Exceptions/Variances	Worsens	No Change	No Change	Worsens	Exceeds Minimum (Shoulder is wider than minimum requirement)	Limits	Worsens (TTI 1.56 to TTI 1.98)	Worsens (PTI 2.73 to PTI 2.98)	Worsens (TT 13.4 to TT 16.1)	Worsens	No Change	No Change	No Change	Yes, can accommodate buses	No Change	No Change	BOULDER COUNTY Fair: 2 lanes align with TMP; have safety concerns based on crash data including roadway, lane departures and a pedestrian fatality.	Low	None	N	Not Recommended	
		2 Lanes	Typical	10'	At Intersections	Bikes on shoulder	No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate (Consistent 10' Shoulder and Intersection Improvements)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Better cross-section for turns)	Moderate (TTI 1.98 to TTI 1.75) w/4-Lanes e/o US287 Moderate (TTI 1.98 to TTI 1.77)	Moderate (PTI 2.98 to PTI 2.65) w/4-Lanes e/o US287 Worsens (PTI 2.98 to PTI 3.18)	Moderate (TT 16.1 to TT 14.1) w/4-Lanes e/o US287 Moderate (TT 16.1 to TT 14.3)	Moderate w/4-Lanes e/o US287 Moderate	Moderate - SH 119, the LOBO trail and 95th St are DRCOG Regional Active Transportation Corridors. The existing 8' shoulders on CO 52 would provide a connection between these facilities. Widening the shoulders by 2-4' would result in a nominal change to N-S connections within this segment; however, the provision of a TWLTL would provide width for treatments such as raised medians and median refuges at intersections for left-turning bicycles.	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B or better. Ex. Conditions: 55 mph speed limit, 8 ft shoulder, 4% HV, 12000 AADT west of US 287	Yes, can accommodate buses	Historic - three officially eligible or listed on the SRHP (CO 52, Colorado and Southern Railroad, and Hycrest Farm). Recreation (Monarch Park, Niwot Loop Trail, and Boulder County Owned Open Space). Traffic Noise 9 office with outdoor seating located near CO 119, rural hopes concentrated between N 79th Street and N 95th Street, Parks and Trails concentrated between N 71st Street and N 95th Street, Equestrian area between N 107th Street and CR1.	High	BOULDER COUNTY Fair: 2 lanes align with TMP and 10' shoulders may help with bike-ped safety, along with providing space for breakdowns or emergency response on the shoulders. Do not desire to have two-way left turn lane all the way down the corridor when there are no cross streets nor future planned development. The left turns should only be where needed.	Low	$¢ - Primarily agricultural and open space	Y	Recommended	
			Option	12'	-		No Exceptions/Variances		No Change	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 12 ft yields a CMF of 0.76 and CRF of 24%		Exceeds Minimum (Shoulder is wider than minimum requirement)	Neutral (Slightly better cross-section for turns with wider shoulders)					Moderate - See above	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B or better. Ex. Conditions: 55 mph speed limit, 8 ft shoulder, 4% HV, 12000 AADT west of US 287	Yes, can accommodate buses		High	BOULDER COUNTY Fair: 2 lanes align with TMP and 10' shoulders may help with bike-ped safety, along with providing space for breakdowns or emergency response on the shoulders. Do not desire to have two-way left turn lane all the way down the corridor when there are no cross streets nor future planned development. The left turns should only be where needed.	Low			Carried Forward	
			Option	-		Rumble Strips	No Exceptions/Variances		No Change	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%		Exceeds Minimum (Shoulder is wider than minimum requirement)	Neutral (Slightly better cross-section for turns with wider shoulders)					Moderate - See above	Moderate - Additional width for bicyclists and shoulder rumble strips would improve bicyclist comfort and safety and reduce run-off road collisions.	No Change - BLOS is B or better. Ex. Conditions: 55 mph speed limit, 8 ft shoulder, 4% HV, 12000 AADT west of US 287	Yes, can accommodate buses		High	BOULDER COUNTY Good: We have a Vision Zero policy and goals supports Rumble Strips and they should be located in a way to not create safety issues for people riding bikes. The county does not desire to have two-way left turn lanes all the way along the corridor, only where needed. There are not many intersections and no new planned development.	Low			Carried Forward	
		2 Lanes (+ PPSL)	Typical	12'	At Intersections	Multi-Use Path	No Exceptions/Variances	Substantial (Multi-Use Path Limits Exposure)	Substantial - The most desirable bicycling score, LTS 1, applies to multi-use paths that are separated from motorized traffic.	Substantial - Providing an off-street facility would eliminate conflicts between vehicles and bicyclists, thereby reducing the crash potential.	Limited (Shoulder unavailable for emergency maneuvers in peak direction, but will benefit off-peak direction/periods)	Meets Minimum (assume 10' multiuse path)	Improves (Better cross-section for turns)	Substantial (TTI 1.98 to TTI 1.60)	Moderate (PTI 2.98 to PTI 2.69)	Substantial (TT 16.1 to TT 13.1)	Substantial	Substantial - A multi-use path would provide a substantial improvement to connectivity between SH 119, the LOBO trail, and 95th St. The proposed TWLTL provides width for treatments such as raised medians and median refuges at intersections for left-turning bicycles.	Substantial - A multi-use path would substantially improve E-W connections through this segment.	Major - Moving bikes from shoulder onto separate path	Yes, can accommodate buses, allow vehicles to pass slow moving buses, and provides better first and final mile connectivity	Historic - three officially eligible or listed on the SRHP (CO 52, Colorado and Southern Railroad, and Hycrest Farm). Recreation (Monarch Park, Niwot Loop Trail, and Boulder County Owned Open Space). Traffic Noise 9 office with outdoor seating located near CO 119, rural hopes concentrated between N 79th Street and N 95th Street, Parks and Trails concentrated between N 71st Street and N 95th Street, Equestrian area between N 107th Street and CR1.	High - change would not alter surrounding land uses. Minimal impacts from multiuse path.	BOULDER COUNTY Fair: The TMP calls for a regional trail in the section and during the meeting with the bicycling community members, it was clear they support this type of separation. Perhaps a phased approach would be appropriate or perhaps straight to multi-use path. This will need further analysis, but want to keep the option open. TMP does not show PPSL on this corridor. Left turn lanes should only be at intersections, where needed, and not the entire stretch of the corridor.	Medium - Boulder County owns most of the land or owns a conservation easement on top of private parcels for almost the entire corridor	$$ - Primarily agricultural and open space. See ROW complexity.	Y	Carried Forward	
		2 Lanes (+ 2 HOV/Managed Lanes)	Typical	10'	HOV/Managed Lane	Bikes on shoulder	No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate (Consistent 10' Shoulder)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows some passing)	Moderate (TTI 1.98 to TTI 1.71)	Worsens (PTI 2.98 to PTI 3.94)	Substantial (TT 16.1 to TT 13.6)	Substantial	Moderate - A multi-use path would improve connectivity between SH 119, the LOBO trail, and 95th St; however, the proposed 4-lane cross-section would increase bicycle-vehicle conflicts and add complexity to crossings.	Substantial - A multi-use path would substantially improve E-W connections through this segment.	Major - Moving bikes from shoulder onto separate path	Yes, can accommodate buses, allow vehicles to pass slow moving buses, and provides better first and final mile connectivity	Historic - three officially eligible or listed on the SRHP (CO 52, Colorado and Southern Railroad, and Hycrest Farm). Recreation (Monarch Park, Niwot Loop Trail, and Boulder County Owned Open Space). Difficult land uses (one spill noted on county road one) Traffic Noise 9 office with outdoor seating located near CO 119, rural hopes concentrated between N 79th Street and N 95th Street, Parks and Trails concentrated between N 71st Street and N 95th Street, Equestrian area between N 107th Street and CR1.	Medium - wider footprint although the County appears to support managed lanes. Change would not alter surrounding land uses.	BOULDER COUNTY Poor: TMP does not show HOV lanes on this corridor. Bikes on shoulder vs. multi-use path warrants additional analysis.	Medium - Boulder County owns most of the land or owns a conservation easement on top of private parcels for almost the entire corridor	$$¢ - Primarily agricultural and open space. See ROW complexity.	Y	Eliminate	Decreases reliability. Does not have local support. Introduces safety concerns. Would require substantial ITS investment.
		4 Lanes	Typical	10'	Two-Way Left Turn	Bikes on shoulder	No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate (Consistent 10' Shoulder)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 1.98 to TTI 1.46)	Substantial (PTI 2.98 to PTI 2.11)	Substantial (TT 16.1 to TT 11.6)	Substantial	Minor - SH 119, the LOBO trail and 95th St are DRCOG Regional Active Transportation Corridors. The existing 8' shoulders on CO 52 would provide a connection between these facilities and widening the shoulders by 2-4' would result in a nominal change to N-S connections within this segment. The proposed four lane cross-section results in higher potential vehicle-bicycle conflicts than a two-lane cross section, but the provision of TWLTLs provide width for treatments such as raised medians and median refuges at intersections for left-turning bicycles.	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B or better. Ex. Conditions: 55 mph speed limit, 8 ft shoulder, 4% HV, 12000 AADT west of US 287	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - three officially eligible or listed on the SRHP (CO 52, Colorado and Southern Railroad, and Hycrest Farm). Recreation (Monarch Park, Niwot Loop Trail, and Boulder County Owned Open Space). Traffic Noise 9 office with outdoor seating located near CO 119, rural hopes concentrated between N 79th Street and N 95th Street, Parks and Trails concentrated between N 71st Street and N 95th Street, Equestrian area between N 107th Street and CR1. ,	Medium - because of specific policy guidance. Boulder only supports 4 lanes at intersections and is opposed to 4-lanes (general purpose) elsewhere. Presence of Boulder County owned land and conservation easements indicate that future policy change unlikely.	BOULDER COUNTY Poor: TMP shows regional multi-use trail and has language against adding additional general purpose lanes.	High - Boulder County owns most of the land or owns a conservation easement on top of private parcels for almost the entire corridor	$$¢ - Primarily agricultural and open space. See ROW complexity.	Y	Not Recommended	Is not in line with local agency plans. Has significant transportation and mobility benefits.
			Option	12'	-		No Exceptions/Variances		No Change	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 12 ft yields a CMF of 0.76 and CRF of 24%		Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)					Minor - See above.	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B or better. Ex. Conditions: 55 mph speed limit, 8 ft shoulder, 4% HV, 12000 AADT west of US 287	Yes, can accommodate buses and allow vehicles to pass slow buses		Medium - see above	BOULDER COUNTY POOR: From the County's TMP: "no new lanes should be added between the intersections. Doing so would not actually increase vehicle capacity on the corridor ..."	High			Not Recommended	
			Option	-		Rumble Strips	No Exceptions/Variances		No Change	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%		Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)					Minor - See above.	Moderate - Additional width for bicyclists and shoulder rumble strips would improve bicyclist comfort and safety and reduce run-off road collisions.	No Change - BLOS is B or better. Ex. Conditions: 55 mph speed limit, 8 ft shoulder, 4% HV, 12000 AADT west of US 287	Yes, can accommodate buses and allow vehicles to pass slow buses		Medium - see above	BOULDER COUNTY POOR: From the County's TMP: "no new lanes should be added between the intersections. Doing so would not actually increase vehicle capacity on the corridor ..."	High			Not Recommended	
Segment 2 - County Line Road to WCR 19	CO Line Rd. to WCR 7	2 Lanes	No Build	8-10'	At Intersections	Shoulder	No Exceptions/Variances	Worsens	No Change	No Change	Worsens	Exceeds Minimum (Shoulder is wider than minimum requirement)	Limits	Worsens (TTI 1.70 to TTI 3.53)	Worsens (PTI 3.54 to PTI 7.92)	Worsens (TT 5.4 to TT 11.3)	Worsens	No Change	No Change	No Change	Yes, can accommodate buses	No Change	No Change	WELD COUNTY No Comment DACONO Not w/in Dacono Plan ERIE Poor FREDERICK Fair	Low	None	N	Not Recommended	
		2 Lanes	Typical	10'	Two-Way Left Turn	Bikes on shoulder	No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate (Consistent 10' Shoulder)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Better cross-section for turns)	Worsens (TTI 1.70 to TTI 3.53)	Worsens (PTI 3.54 to PTI 7.92)	Worsens (TT 5.4 to TT 11.3)	Worsens	Moderate - CO 52 between CO Line Rd and WCR 7 includes several proposed off-street and on-street bicycle facilities. Widening the shoulders by 2' would result in no change to N-S connections within this segment; however, the provision of TWLTLs would provide width for treatments such as raised medians and median refuges at intersections for left-turning bicycles from the minor side streets.	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B. Ex. Conditions: 55 mph speed limit, 8-10 ft shoulder, 6% HV, 19000 AADT near I-25	Yes, can accommodate buses	Historic - six officially eligible or listed on the SRHP (CO 52, South Platte Supply Canal Ditch, South Platte Supply Canal Segment, highway 52 segment, community ditch segment, and Cottonwood extension ditch segment). Parks and Recreation (Wetland Park). Traffic Noise (rural homes concentrated between CR 1 and CR 5, Park and recreation area concentrated between CR 3 1/2 and CR 5)	Medium - may be insufficient for commercial development. This segment of corridor among the fastest growing residential areas.	WELD COUNTY Good - This is a good interim condition for this location. Median lane, and bikeable shoulders will help improve safety. DACONO Not w/in Dacono Plan ERIE Poor FREDERICK Good - Increase in ped/bicycle options. Would rather see 4 lanes.	Low	$ - Primarily agricultural and open space	Y	Not Recommended	Traffic operations will worsen with expected growth in the area.
		4 Lanes	Typical	10'	Two-Way Left Turn		No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate (Consistent 10' Shoulder)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 3.53 to TTI 1.35) w/4-Lanes e/o US287 Substantial (TTI 3.53 to TTI 1.83)	Substantial (PTI 7.92 to PTI 1.86) w/4-Lanes e/o US287 Substantial (PTI 7.92 to PTI 4.46)	Substantial (TT 11.3 to TT 4.3) w/4-Lanes e/o US287 Substantial (TT 11.3 to TT 5.9)	Substantial w/4-Lanes e/o US287 Substantial	Minor - CO 52 between CO Line Rd and WCR 7 includes several proposed off-street and on-street bicycle facilities. The existing 8' shoulders on CO 52 would provide a connection between these facilities and widening the shoulders by 2' would result in no change to N-S connections within this segment. The proposed four lane cross-section results in higher potential vehicle-bicycle conflicts than a two-lane cross section, but the provision of TWLTLs provide width for treatments such as raised medians and median refuges at intersections for left-turning bicycles from the minor side streets.	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B. Ex. Conditions: 55 mph speed limit, 8-10 ft shoulder, 6% HV, 19000 AADT near I-25	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - six officially eligible or listed on the SRHP (CO 52, South Platte Supply Canal Ditch, South Platte Supply Canal Segment, highway 52 segment, community ditch segment, and Cottonwood extension ditch segment). Parks and Recreation (Wetland Park). Traffic Noise (rural homes concentrated between CR 1 and CR 5, Park and recreation area concentrated between CR 3 1/2 and CR 5)	High - area slated for future commercial and is fast growing. In general, commercial establishments prefer options that help with access, but this will depend on the ultimate site plan	WELD COUNTY Good - Our preference would be to maintain the two-way left turn lane with an open median. DACONO Not w/in Dacono Plan ERIE Fair FREDERICK Good - preferred option	Low	$ - Primarily agricultural and open space	Y	Recommended	
					Raised Median		No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate (Consistent 10' Shoulder)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 3.53 to TTI 1.35) w/4-Lanes e/o US287 Substantial (TTI 3.53 to TTI 1.83)	Substantial (PTI 7.92 to PTI 1.86) w/4-Lanes e/o US287 Substantial (PTI 7.92 to PTI 4.46)	Substantial (TT 11.3 to TT 4.3) w/4-Lanes e/o US287 Substantial (TT 11.3 to TT 5.9)	Substantial w/4-Lanes e/o US287 Substantial	Minor - CO 52 between CO Line Rd and WCR 7 includes several proposed off-street and on-street bicycle facilities. The existing 8' shoulders on CO 52 would provide a connection between these facilities and widening the shoulders by 2' would result in no change to N-S connections within this segment. The proposed four lane cross-section results in higher potential vehicle-bicycle conflicts than a two-lane cross section, but the provision of TWLTLs provide width for treatments such as raised medians and median refuges at intersections for left-turning bicycles from the minor side streets.	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B. Ex. Conditions: 55 mph speed limit, 8-10 ft shoulder, 6% HV, 19000 AADT near I-25	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - six officially eligible or listed on the SRHP (CO 52, South Platte Supply Canal Ditch, South Platte Supply Canal Segment, highway 52 segment, community ditch segment, and Cottonwood extension ditch segment). Parks and Recreation (Wetland Park). Traffic Noise (rural homes concentrated between CR 1 and CR 5, Park and recreation area concentrated between CR 3 1/2 and CR 5)	Medium - in general, commercial establishments don't always like medians and prefer options that help with access, but this will depend on the ultimate site plan	WELD COUNTY Fair - A raised median is not as desirable as an open median. DACONO Not w/in Dacono Plan ERIE Good. FREDERICK Fair -Raised median offers ped refuge for north/south travel where option does not currently exist.	Low	$ - Primarily agricultural and open space		Carried Forward	
	WCR 7 to SB I-25 Frontage Road	2 Lanes	No Build	8-10'	At Intersections	Shoulder	No Exceptions/Variances	Worsens	No Change	No Change	Worsens	Exceeds Minimum (Shoulder is wider than minimum requirement)	Limits	Worsens (TTI 1.16 to TTI 2.20)	Worsens (PTI 1.34 to PTI 6.34)	Worsens (TT 0.5 to TT 0.9)	Worsens	No Change	No Change	No Change	Yes, can accommodate buses	No Change	No Change	WELD COUNTY No Comment DACONO Not w/in Dacono Plan FREDRICK - Fair	Low	None	N	Not Recommended	
		2 Lanes	Typical	10'	Two-Way Left Turn	Bikes on shoulder	No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate (Consistent 10' Shoulder)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Better cross-section for turns)	Worsens (TTI 1.16 to TTI 2.20)	Worsens (PTI 1.34 to PTI 6.34)	Worsens (TT 0.5 to TT 0.9)	Worsens	No Change - There are no major existing/proposed N-S bicycle facilities along this segment that would be connected by a bicycle facility along CO 52	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B and better. Ex. Conditions: 40 mph speed limit east of Glacier Way and 55 mph speed limit west of Glacier Way, 8-10 ft shoulder, 6% HV, 19000 AADT near I-25	Yes, can accommodate buses	Historic - two officially eligible or listed on the SRHP (CO 52 and Highway 52 Segment) Traffic Noise (restaurant with outdoor seating and rural homes clustered around CR 7)	Medium - may be insufficient for commercial development. This segment of corridor among the fastest growing residential areas.	WELD COUNTY Good - This is the preferred interim condition. DACONO Not w/in Dacono Plan FREDERICK Fair - area identified for commercial development with desire for increased ingress options. Developing area with increasing density will require additional travel lanes for capacity.	Medium - Potential impact to commercial property	$¢ - Commercial and residential	Y	Not Recommended	
		4 Lanes	Typical	10'	Two-Way Left Turn	Bikes on shoulder	No Exceptions/Variances	No Change	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate	Moderate (Consistent 10' Shoulder)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 2.20 to TTI 1.24)	No Change (PTI 6.34 to PTI 6.17)	Substantial (TT 0.9 to TT 0.5)	Substantial	No Change	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - two officially eligible or listed on the SRHP (CO 52 and Highway 52 Segment) Traffic Noise (restaurant with outdoor seating and rural homes clustered around CR 7)	High - area slated for future commercial and is fast growing. In general, commercial establishments prefer options that help with access, but this will depend on the ultimate site plan	WELD COUNTY Good - preferred alignment at this location. DACONO Not w/in Dacono Plan FREDERICK Good - area identified for commercial development with desire for increased ingress options. Developing area with increasing density will require additional travel lanes for capacity	Medium - Potential impact to commercial property	$$ - Commercial and residential	Y	Carried Forward	
					Raised Median		No Exceptions/Variances	Moderate (Consistent 10' Shoulder and Median Refuge)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate (Consistent 10' Shoulder)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 2.20 to TTI 1.24)	No Change (PTI 6.34 to PTI 6.17)	Substantial (TT 0.9 to TT 0.5)	Substantial	No Change - There are no major existing/proposed N-S bicycle facilities along this segment that would be connected by a bicycle facility along CO 52	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B and better. Ex. Conditions: 40 mph speed limit east of Glacier Way and 55 mph speed limit west of Glacier Way, 8-10 ft shoulder, 6% HV, 19000 AADT near I-25	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - two officially eligible or listed on the SRHP (CO 52 and Highway 52 Segment) Traffic Noise (restaurant with outdoor seating and rural homes clustered around CR 7)	Medium - in general, commercial establishments don't always like medians and prefer options that help with access, but this will depend on the ultimate site plan	WELD COUNTY Fair - A raised median is not as desirable as an open median. DACONO Not w/in Dacono Plan FREDERICK Fair option. Like raised median aesthetics but do not want to make it difficult for commercial access.	Medium - Potential impact to commercial property	$$ - Commercial and residential	Y	Carried Forward	
				Urban	16' Median/12' Turn Lane	Peds on sidewalk, bike lanes	No Exceptions/Variances	Moderate (Sidewalk and Median Refuge)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Significant - Per a FHWA Crash Modification Factor (CMF) Clearinghouse study, installing bicycle lanes yields a CMF of 0.51 and Crash Reduction Factor of 49% for vehicle/bicycle crashes. Per the study, this CMF was developed for bicycle lane addition resulting in reduced shoulder or lane width and 20 percent increase in average daily bicycle traffic (ADBT). The base condition was 11-ft lanes, no shoulder, no median, and four-lane urban collector or local road.	Moderate (Median Separation)	Meets Minimum*	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 2.20 to TTI 1.24)	No Change (PTI 6.34 to PTI 6.17)	Substantial (TT 0.9 to TT 0.5)	Substantial	No Change - There are no major existing/proposed N-S bicycle facilities along this segment that would be connected by a bicycle facility along CO 52	Substantial - Due to the provision of bike lanes	Major - Dedicated bike lanes	Yes, can accommodate buses, allow vehicles to pass slow moving buses, and provides better first and final mile connectivity	Historic - two officially eligible or listed on the SRHP (CO 52 and Highway 52 Segment) Traffic Noise (restaurant with outdoor seating and rural homes clustered around CR 7)	High	WELD COUNTY Good DACONO Not w/in Dacono Plan FREDERICK Good - Area identified for commercial development with desire for increased ingress options. Developing quickly, increasing density in immediate area with adjacent residential would see need for alternate modes of transportation.	Medium - Potential impact to commercial property	$$ - Commercial and residential	Y	Carried Forward	
		6 Lanes	Typical	Urban	16' Median/12' Turn Lane	Peds on sidewalk, bike lanes	No Exceptions/Variances	Moderate (Sidewalk and Median Refuge, but Longer Crossing Distances)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Significant - Per a FHWA Crash Modification Factor (CMF) Clearinghouse study, installing bicycle lanes yields a CMF of 0.51 and Crash Reduction Factor of 49% for vehicle/bicycle crashes. Per the study, this CMF was developed for bicycle lane addition resulting in reduced shoulder or lane width and 20 percent increase in average daily bicycle traffic (ADBT). The base condition was 11-ft lanes, no shoulder, no median, and four-lane urban collector or local road.	Moderate (Median Separation)	Meets Minimum*	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 2.20 to TTI 1.24) w/4-Lanes e/o US287 Worsens (TTI 2.20 to TTI 2.59)	No Change (PTI 6.34 to PTI 6.17) w/4-Lanes e/o US287 Worsens (PTI 6.34 to PTI 11.11)	Substantial (TT 0.9 to TT 0.5) w/4-Lanes e/o US287 Worsens (TT 0.9 to TT 1.1)	Substantial w/4-Lanes e/o US287 Worsens	No Change - There are no major existing/proposed N-S bicycle facilities along this segment that would be connected by a bicycle facility along CO 52	Substantial - Due to the provision of bike lanes	Major - Dedicated bike lanes	Yes, can accommodate buses, allow vehicles to pass slow moving buses, and provides better first and final mile connectivity	Historic - two officially eligible or listed on the SRHP (CO 52 and Highway 52 Segment) Traffic Noise (restaurant with outdoor seating and rural homes clustered around CR 7)	Medium - could potentially support future commercial mixed use development, but not supported in policy docs	WELD COUNTY Good DACONO Not w/in Dacono Plan FREDERICK - Fair - the community supports bicycle connectivity and the proposed 6-lanes is concerning.	Medium - Potential impact to commercial property	$$ - Commercial and residential	Y	Recommended	With expected growth in the area, may eventually need 6-lanes. Recommend preserving ROW for this alternative and utilizing 4-lane options in interim. If 6-lane moves into design, include bicycle connectivity into project.
	EXCLUDED AREA: I-25 between southbound frontage road to northbound frontage road. Make corridor recommendation up to frontage roads. Check the tie into I-25 recommendations.																												
	Northbound I-25 Frontage Rd to WCR 15	2 Lanes	No Build	8-10'	At Intersections	Shoulder	No Exceptions/Variances	Worsens	No Change	No Change	Worsens	Exceeds Minimum (Shoulder is wider than minimum requirement)	Limits	Worsens (TTI 1.47 to TTI 3.00)	Worsens (PTI 1.75 to PTI 5.68)	Worsens (TT 4.6 to TT 9.5)	Worsens	No Change	No Change	No Change	Yes, can accommodate buses	No Change	No Change	WELD COUNTY No Comment DACONO Poor FREDERICK Center turn lane not provided at only intersections rather than access points in commercial area.	Low	None	N	Not Recommended	
		4 Lane	Typical	Urban	16' Median/12' Turn Lane	Peds on sidewalk, bike lanes	No Exceptions/Variances	Moderate (Sidewalk and Median Refuge)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Significant - Per a FHWA Crash Modification Factor (CMF) Clearinghouse study, installing bicycle lanes yields a CMF of 0.51 and Crash Reduction Factor of 49% for vehicle/bicycle crashes. Per the study, this CMF was developed for bicycle lane addition resulting in reduced shoulder or lane width and 20 percent increase in average daily bicycle traffic (ADBT). The base condition was 11-ft lanes, no shoulder, no median, and four-lane urban collector or local road.	Moderate (Sidewalk and Median Treatment)	Meets Minimum*	Improves (Wider cross-section for turns, allows passing)	Full Section Substantial (TTI 3.00 to TTI 1.86) Silver Birch to WCR 15 Substantial (TTI 2.60 to TTI 1.88)	Full Section Substantial (PTI 5.68 to PTI 2.55) Silver Birch to WCR 15 Substantial (PTI 4.57 to PTI 2.87)	Full Section Substantial (TT 9.5 to TT 5.9) Silver Birch to WCR 15 Substantial (TTI 6.2 to TTI 4.6)	Full Section Substantial Silver Birch to WCR 15 Substantial	Significant - Colorado Blvd and the segment of CO 52 east of Colorado Blvd are DRCOG Regional Active Transportation Corridors. Providing bike lanes on CO 52 would improve the connection for bicyclists travelling N-S between WCR 13 and WCR 23 and would improve local bicycle connectivity within Dacono and Frederick.	Substantial - Due to the provision of bike lanes	Major - Dedicated bike lanes	Yes, can accommodate buses, allow vehicles to pass slow moving buses, and provides better first and final mile connectivity	Historic - five officially eligible or listed on the SRHP (CO 52, Lower Boulder Ditch/ South Platte Supply Canal, Lower Boulder Ditch Segment, Nelson Farm, Union Pacific RR Dent Branch Segment). Traffic Noise (restaurants with outdoor seating and rural homes located in Dacono and Frederick	High	WELDO COUNTY Good - This is a good interim condition for this location. Median lane, and bikeable shoulders will help improve safety. DACONO Good FREDERICK Good - Area identified for commercial development with desire for increased ingress options. Developing quickly, increasing density in immediate area with adjacent residential would see need for alternate modes of transportation.	High - Relatively low complexity of acquisition, except for one oil well conflict.	$$ - Agricultural, commercial, and residential	Y	Carried Forward (NB I-25 Frontage Road to Silver Birch) Recommended (Silver Birch to WCR 15)	
		6 Lane	Typical	Urban	16' Median/12' Turn Lane	Peds on sidewalk, bike lanes	No Exceptions/Variances	Moderate (Sidewalk and Median Refuge, but Longer Crossing Distances)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Significant - Per a FHWA Crash Modification Factor (CMF) Clearinghouse study, installing bicycle lanes yields a CMF of 0.51 and Crash Reduction Factor of 49% for vehicle/bicycle crashes. Per the study, this CMF was developed for bicycle lane addition resulting in reduced shoulder or lane width and 20 percent increase in average daily bicycle traffic (ADBT). The base condition was 11-ft lanes, no shoulder, no median, and four-lane urban collector or local road.	Moderate (Sidewalk and Median Treatment)	Meets Minimum*	Improves (Wider cross-section for turns, allows passing)	I-25 FR to Silver Birch Substantial (TTI 3.22 to TTI 1.71)	I-25 FR to Silver Birch Substantial (PTI 9.56 to PTI 4.13)	I-25 FR to Silver Birch No Change (TT 1.3 to TT 1.3)	I-25 FR to Silver Birch No Change	Moderate - Colorado Blvd and the segment of CO 52 east of Colorado Blvd are DRCOG Regional Active Transportation Corridors. Providing bike lanes on CO 52 would improve the connection for bicyclists travelling N-S between WCR 13 and WCR 23 and would improve local bicycle connectivity within Dacono and Frederick. However, the proposed six lane cross-section results in higher potential vehicle-bicycle conflicts than a four-lane cross section.	Substantial - Due to the provision of bike lanes	Major - Dedicated bike lanes	Yes, can accommodate buses, allow vehicles to pass slow moving buses, and provides better first and final mile connectivity	Historic - five officially eligible or listed on the SRHP (CO 52, Lower Boulder Ditch/ South Platte Supply Canal, Lower Boulder Ditch Segment, Nelson Farm, Union Pacific RR Dent Branch Segment). Traffic Noise (restaurants with outdoor seating and rural homes located in Dacono and Frederick	Medium - could potentially support future commercial mixed use development, but not supported in policy docs	WELD COUNTY Good - Our preference would be to maintain the two-way left turn open median. DACONO Good FREDERICK Fair - Commercial area, desire for left turn movements at restricted access locations. Increased conflict with provided ped/bicycle	High - Relatively low complexity of acquisition, except for one oil well conflict.	$$ - Agricultural, commercial, and residential	Y	Recommended (Between NB I-25 Frontage Road and Silver Birch only) Not Recommended (Silver Birch to WCR 15)	With expected growth in the area, may eventually need 6-lanes. Recommend preserving ROW for this alternative and utilizing 4-lane options in interim. If 6-lane moves into design, include bicycle connectivity into project.
	MP 15 - WCR 19	2 Lanes	No Build	8-10'	At Intersections	Shoulder	No Exceptions/Variances	Worsens	No Change	No Change	Worsens	Exceeds Minimum (Shoulder is wider than minimum requirement)	Limits	Worsens (TTI 1.14 to TTI 1.20)	Worsens (PTI 1.29 to PTI 1.47)	Worsens (TT 2.7 to TT 2.9)	Worsens	No Change	No Change	No Change	Yes, can accommodate buses	No Change	No Change	WELD COUNTY No Comment DACONO Poor FREDERICK Fair	Low	None	N	Not Recommended	
		2 Lanes	Typical	10'	16' median	Bikes on Shoulder								Worsens (TTI 1.20 to TTI 1.50)	Worsens (PTI 1.47 to PTI 2.04)	Worsens (TT 2.9 to TT 3.6)	Worsens							WELD COUNTY Fair DACONO Less about aligning with plans and more about safety in this section. Would defer to traffic and safety engineers to adequately address safety. Bad weather, speed issues, etc. FREDERICK Fair - Necessary outside of s-curve? What is the required approach length inclusion for an item such as this?				Not Recommended	Two lane alternative could include realignment and lower superelevation; median may include rumble strips or cable rail Must accommodate additional traffic over the No Build scenario.
		4 Lanes	Typical	10'	16' Median with Rumble Strips	Bikes on shoulder	No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Substantial (Consistent Shoulder, Median, and Rumble Strips)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Worsens (TTI 1.20 to TTI 1.27)	Worsens (PTI 1.47 to PTI 1.57)	No Change (TT 2.9 to TT 3.0)	No Change	No Change - Shoulders of 8-10' width exist along this segment. Widening to a consistent width of 10' would provide a nominal improvement.	Minor - Additional width/consistent shoulder width of 10' for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B Ex Conditions: 55 mph speed limit, 6-8 ft shoulder, 10% HV, 12000 AADT near Dacono	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - one officially eligible or listed on the SRHP (CO 52). Traffic Noise (rural homes located near CR 17 and CR 19)	Medium - realignment may have a larger impact on potential for property redevelopment	WELD COUNTY Fair DACONO Less about aligning with plans and more about safety in this section. Would defer to traffic and safety engineers to adequately address safety. Bad weather, speed issues, etc. FREDERICK fair - Necessary outside of s-curve? What is the required approach length inclusion for an item such as this?	High- ROW may be a complicated acquisition with a realignment of the roadway.	$$$ - Agricultural, but large takes may require full takes based on impact	Y	Recommended	Must accommodate additional traffic over the No Build scenario.
					16' Median with Cable Rail		No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Substantial (Consistent Shoulder and Cable Rail)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Worsens (TTI 1.20 to TTI 1.27)	Worsens (PTI 1.47 to PTI 1.57)	No Change (TT 2.9 to TT 3.0)	No Change	No Change - Shoulders of 8-10' width exist along this segment. Widening to a consistent width of 10' would provide a nominal improvement.	Minor - Additional width/consistent shoulder width of 10' for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B. Ex. Conditions: 55 mph speed limit, 8-10 ft shoulder, 6% HV, 19000 AADT near I-25	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - one officially eligible or listed on the SRHP (CO 52). Traffic Noise (rural homes located near CR 17 and CR 19)	Medium - realignment may have a larger impact on potential for property redevelopment	WELD COUNTY Good DACONO Less about aligning with plans and more about safety in this section. Would defer to traffic and safety engineers to adequately address safety. Bad weather, speed issues, etc. FREDERICK fair - Necessary outside of s-curve? What is the required approach length inclusion for an item such as this?	High- ROW may be a complicated acquisition with a realignment of the roadway.	$$$ - Agricultural, but large takes may require full takes based on impact	Y	Carried Forward	Must accommodate additional traffic over the No Build scenario.
					Depressed Median		No Exceptions/Variances	Moderate (Consistent 10' Shoulder)	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Substantial (Consistent Shoulder and Median Separation)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Worsens (TTI 1.20 to TTI 1.27)	Worsens (PTI 1.47 to PTI 1.57)	No Change (TT 2.9 to TT 3.0)	No Change	No Change - Shoulders of 8-10' width exist along this segment. Widening to a consistent width of 10' would provide a nominal improvement.	Minor - Additional width/consistent shoulder width of 10' for bicyclists would improve bicyclist comfort and safety	No Change - BLOS is B. Ex. Conditions: 55 mph speed limit, 8-10 ft shoulder, 6% HV, 19000 AADT near I-25	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - one officially eligible or listed on the SRHP (CO 52). Traffic Noise (rural homes located near CR 17 and CR 19)	Medium - realignment may have a larger impact on potential for property redevelopment	WELD COUNTY Fair DACONO Less about aligning with plans and more about safety in this section. Would defer to traffic and safety engineers to adequately address safety. Bad weather, speed issues, etc. FREDERICK fair - Necessary outside of s-curve? What is the required approach length inclusion for an item such as this?	High- ROW may be a complicated acquisition with a realignment of the roadway.	$$$ - Agricultural, but large takes may require full takes based on impact	Y	Not Recommended	Small benefits that could come from depressed median do not outweigh the additional impact to adjacent properties. Would also not match character of the remainder of the corridor.
Segment 3 - WCR 19 to WCR 31	WCR 19 to US 85 SB Ramps	2 Lanes	No Build	6-8'	At Intersections	Bikes on shoulder	No Exceptions/Variances	Worsens	No Change	No Change	Worsens	Exceeds Minimum (Shoulder is wider than minimum requirement)	Limits	Worsens (TTI 1.13 to TTI 1.38)	Worsens (PTI 1.23 to PTI 2.50)	Worsens (TT 3.3 to TT 4.1)	Worsens	No Change	No Change	No Change	Yes, can accommodate buses	No Impact	No Impact	WELD COUNTY No comment FORT LUPTON Poor	Low	None	N	Not Recommended	
		2Lanes (+1 Alternating Passing Lane)	Typical	10'	-	Bikes on shoulder	No Exceptions/Variances	Pending	No Change	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 6 to 10 ft yields a CMF of 0.76 and Crash Reduction Factor of 24% for vehicle/bicycle crashes. Widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate - provides consistent 10' shoulder and provides passing opportunities	Exceeds Minimum (Shoulder is wider than minimum requirement)	Neutral (Slightly better cross-section for turns, allows some passing)	No Change* (TTI 1.33 to TTI 1.30)	Substantial* (PTI 2.23 to PTI 1.72)	No Change* (TT 3.9 to TT 3.8)	No Change*	Moderate - WCR 13, WCR 23, and CO 52 between 13 and 23 are all DRCOG Regional Active Transportation Corridors. Widening existing shoulders on CO 52 would improve the connection for bicyclists travelling N-S between WCR 13 and WCR 23	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	Moderate - BLOS would improve from BLOS D to BLOS C due to widened shoulder Ex Conditions: 55 mph speed limit, 6-8 ft shoulder, 10% HV, 12000 AADT near Dacono	Yes, can accommodate buses	Historic - one officially eligible or listed on the SRHP (CO 52). Recreation (Pearson Park). Traffic Noise (Rural homes concentrated between mile marker 17 and 20)	High - unlikely to impact whether area land uses stay the same or redevelop long term	WELD COUNTY Fair - This would be an acceptable interim condition. Not optimal. FORT LUPTON Fair	Medium - Both Bratner and Lupton Bottom ditches run parallel to 2 and may need to be relocated.	$ - Primarily agricultural	Y	Not Recommended	High level of impact to access points along segment not offset by operational improvements.
		4 Lanes	Typical	10'	Level Median	Bikes on shoulder	No Exceptions/Variances	Moderate	No Change	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 6 to 10 ft yields a CMF of 0.76 and Crash Reduction Factor of 24% for vehicle/bicycle crashes. Widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Moderate - consistent 10' shoulder	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 1.38 to TTI 1.13)	Substantial (PTI 2.50 to PTI 1.25)	Substantial (TT 4.1 to TT 3.3)	Substantial	Minor - WCR 13, WCR 23, and CO 52 between 13 and 23 are all DRCOG Regional Active Transportation Corridors. Widening existing shoulders on CO 52 would improve the connection for bicyclists travelling N-S between WCR 13 and WCR 23. However, the proposed four lane cross-section results in higher potential vehicle-bicycle conflicts than a two-lane cross section.	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	Moderate - BLOS would improve from BLOS D to BLOS C due to widened shoulder Ex Conditions: 55 mph speed limit, 6-8 ft shoulder, 10% HV, 12000 AADT near Dacono	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - one officially eligible or listed on the SRHP (CO 52). Recreation (Pearson Park). Traffic Noise (Rural homes concentrated between mile marker 17 and 20)	High - unlikely to impact whether area land uses stay the same or redevelop long term	WELD COUNTY Good FORT LUPTON Good - Would prefer separated bike lane from roadway	Medium - Both Bratner and Lupton Bottom ditches run parallel to 2 and may need to be relocated. Two relocation, 1 impact to non-primary structures, and close proximity of ROW to homes. Potential impact to nearby sporting complex.	$$ - Primarily agricultural	Y	Recommended	Must accommodate additional traffic over the No Build scenario.
				10'	Depressed Median	Bikes on shoulder	No Exceptions/Variances	Moderate	No Change	Moderate - Per a FHWAs Crash Modification Factor (CMF) Clearinghouse study, widening a shoulder from 6 to 10 ft yields a CMF of 0.76 and Crash Reduction Factor of 24% for vehicle/bicycle crashes. Widening a shoulder from 8 to 10 ft yields a CMF of 0.87 and CRF of 13%	Substantial - consistent 10' shoulder and full median separation (removes opposite direction conflicts)	Exceeds Minimum (Shoulder is wider than minimum requirement)	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 1.38 to TTI 1.13)	Substantial (PTI 2.50 to PTI 1.25)	Substantial (TT 4.1 to TT 3.3)	Substantial	Minor - WCR 13, WCR 23, and CO 52 between 13 and 23 are all DRCOG Regional Active Transportation Corridors. Widening existing shoulders on CO 52 would improve the connection for bicyclists travelling N-S between WCR 13 and WCR 23. However, the proposed four lane cross-section results in higher potential vehicle-bicycle conflicts than a two-lane cross section.	Minor - Additional width for bicyclists would improve bicyclist comfort and safety	Moderate - BLOS would improve from BLOS D to BLOS C due to widened shoulder Ex Conditions: 55 mph speed limit, 6-8 ft shoulder, 10% HV, 12000 AADT near Dacono	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - one officially eligible or listed on the SRHP (CO 52). Recreation (Pearson Park). Traffic Noise (Rural homes concentrated between mile marker 17 and 20)	High - unlikely to impact whether area land uses stay the same or redevelop long term	WELD COUNTY Good - Depressed or level median is acceptable. FORT LUPTON Good - Would prefer separated bike lane from roadway	Medium - Both Bratner and Lupton Bottom ditches run parallel to 2 and may need to be relocated. Two relocation, 1 impact to non-primary structures, and close proximity of ROW to homes. Potential impact to nearby sporting complex.	$$ - Primarily agricultural	Y	Not Recommended	Depressed median not consistent with the remainder of the corridor. Additional impacts to access points not offset by potential benefits
	EXCLUDED AREA: North and southbound US 85 ramps. Project team to make corridor recommendations for CO 52. There will not be any recommendations made for the CO 52/US 85 interchange.																												
	US 85 NB Ramps to WCR 31 (Ft. Lupton)	2 Lane	No Build	Urban	Two-Way Left Turn	None	No Exceptions/Variances	Worsens	No Change	No Change	Worsens	Does Not Meet Minimum (in travel lane with no shoulder)	Limits	Worsens (TTI 1.44 to TTI 4.19)	Worsens (PTI 2.75 to PTI 10.61)	Worsens (TT 5.6 to TT 16.4)	Worsens	No Change	No Change	No Change	Yes, can accommodate buses	No Impact	No Impact	WELD COUNTY No Comment FORT LUPTON Poor	Low	None	N	Not Recommended	
		2 Lane	Typical	Urban	Two-Way Left Turn	10' Multi-Use Path (North Side), 5' Sidewalk (South Side)	No Exceptions/Variances (pending Section 106 coordination)	Moderate	Substantial - The most desirable bicycling score, LTS 1, applies to multi-use paths that are separated from motorized traffic.	Substantial - Providing an off-street facility would eliminate conflicts between vehicles and bicyclists, thereby reducing the crash potential.	Moderate: Fewer conflict points but potential for longer queues.	Meets Minimum - Per CDOTs Roadway Design Guide, the minimum width of pavement for a two-directional shared use path is 10 feet.	Improves (Better cross-section for turns)	Substantial (TTI 4.19 to TTI 2.48) Note: Includes widening at US 85 interchange	Substantial (PTI 10.61 to PTI 5.31) Note: Includes widening at US 85 interchange	Substantial (TT 16.4 to TT 9.6) Note: Includes widening at US 85 interchange	Substantial	Substantial - A multi-use path under a 2-lane configuration would provide a substantial improvement to local bicycle connectivity within the City of Ft. Lupton. TWLTL provides width for treatments such as raised medians and median refuges at intersections for left-turning bicycles from the minor side streets.	Substantial - A multi-use provide would substantially improve E-W connections through this segment.	Major (moving bikes from travel lane to path)	Yes, can accommodate buses and provides better first and final mile connectivity	Historic - two officially eligible or listed on the SRHP (CO 52 and Denver Pacific Railroad/ Union Pacific Railroad Segment). Traffic Noise (Rural homes from CR 20 to CR 23, including homes in Fort Lupton. Also included are places of worship, restaurants with outdoor seating, and parks, all located within Fort Lupton). Recreation (Pearson Park, Koshio Park, Community Center Park, and Railroad Park	High- (no change to land use and character)	WELD COUNTY Good FORT LUPTON - Addresses lack of pedestrian facilities along this stretch. Just because this is a highway, does this mean 12-feet lanes are required? 11-ft lanes would reduce speeds?	Low	$$¢ - Residential and commercial impacts	Y	Carried Forward	Anticipate significant queuing with this option. 4-lane preferred west of Denver Ave. 2-lane section expected to operate acceptably east of Denver Ave.
		4 Lane	Typical	Urban	Two-Way Left Turn	10' Multi-Use Path (North Side), 5' Sidewalk (South Side)	No Exceptions/Variances (pending Section 106 coordination)	Potentially Worsens (Pedestrians must cross additional lanes)	Substantial - The most desirable bicycling score, LTS 1, applies to multi-use paths that are separated from motorized traffic.	Substantial - Providing an off-street facility would eliminate conflicts between vehicles and bicyclists, thereby reducing the crash potential.	Moderate: Reduces Congestion Related Crashes but Increases Conflict Points (which can be mitigated with measures such as protected lefts)	Meets Minimum - Per CDOTs Roadway Design Guide, the minimum width of pavement for a two-directional shared use path is 10 feet.	Improves (Wider cross-section for turns, allows passing)	Substantial (TTI 4.19 to TTI 1.72) Note: Includes widening at US 85 interchange	Substantial (PTI 10.61 to PTI 3.29) Note: Includes widening at US 85 interchange	Substantial (TT 16.4 to TT 6.6) Note: Includes widening at US 85 interchange	Substantial	Moderate - The provision of a multi-use path under a four-lane lane configuration would provide a moderate improvement to local north-south bicycle connectivity within the City of Ft. Lupton. A four lane cross-section results in higher potential vehicle-bicycle conflicts than a two-lane cross section. TWLTL provides width for treatments such as raised medians and median refuges at intersections for left-turning bicycles from the minor side streets.	Substantial - A multi-use provide would substantially improve E-W connections through this segment.	Major (moving bikes from travel lane to path)	Yes, can accommodate buses, allow vehicles to pass slow moving buses, and provides better first and final mile connectivity	Historic - two officially eligible or listed on the SRHP (CO 52 and Denver Pacific Railroad/ Union Pacific Railroad Segment). Traffic Noise (Rural homes from CR 20 to CR 23, including homes in Fort Lupton. Also included are places of worship, restaurants with outdoor seating, and parks, all located within Fort Lupton). Recreation (Pearson Park, Koshio Park, Community Center Park, and Railroad Park	High (4-lane section identified in multiple planning documents through Ft. Lupton)	WELD COUNTY Good FORT LUPTON Good. There are narrow sections between McKinley and Denver that may not accommodate this configuration conveniently. Some concern regarding pedestrian crossing safety. May need some controlled access to intermediate streets.	High - Potential impact to many property owners and business accesses.	$$$ - Residential and commercial impacts	Y	Recommended	Better accommodates anticipated future traffic over 2-lane section.
Segment 4 - WCR 31 to WCR 49	WCR 31 to WCR 43	2 Lanes	No Build	2'	At Intersections	None	No Exceptions/Variances	Worsens	No Change - Because speed is the governing criteria for LTS for roads with speeds at or greater than 40 mph, LTS = 4 and does not change regardless of other criteria (street width, bike lane/shoulder width, bike lane blockage).	No Change	Worsens	Does Not Meet Minimum	Limits	Worsens (TTI 1.08 to TTI 1.14)	Worsens (PTI 1.21 to PTI 1.28)	No Change (TT 6.2 to TT 6.5)	No Change	No Change - There are no major existing/proposed N-S bicycle facilities along this segment that would be connected by a bicycle facility along CO 52	No Change	No Change	Yes, can accommodate buses	No Impact	No Impact	WELD COUNTY No Comment FORT LUPTON Fair HUDSON Poor (significant variations)	Low	None	N	Not Recommended	
		2 Lanes	Typical	10'	At Intersections	Bikes on shoulder	No Exceptions/Variances	Moderate	No Change	Substantial - FHWAs Crash Modification Factor (CMF) Clearinghouse includes a study that states that widening a shoulder from 2 to 10 ft yields a CMF of 0.58 and Crash Reduction Factor of 42% for vehicle/bicycle crashes.	Moderate	Exceeds Minimum	Neutral (Slightly better cross-section for turns with wider shoulders)	No Change (TTI 1.14 to TTI 1.14)	No Change (PTI 1.28 to PTI 1.27)	No Change (TT 6.5 to TT 6.4)	No Change*	No Change	Substantial - Majority of this segment does not include shoulders. Therefore, 10' paved shoulders would accommodate bikes where there were not previously accommodated and would be a substantial improvement.	Major - Per Ch 14 of CDOTs Roadway Design Guide Table 14-3, the ADT, HV%, Speed Limit, and Shoulder Width along this segment result in a BLOS of B	Yes, can accommodate buses	Historic - one officially eligible or listed on the SRHP (CO 52). Difficult Land Uses (20 oil and gas wells), Traffic Noise (rural homes between CR 31 to CR41) Potential for 401permit and Colorado fill/dredge permit	High	WELD COUNTY Fair FORT LUPTON Good - In the interim until build out in this area. Prefer separated bike lane from roadway HUDSON Fair (some variations between alternatives)	Low (mainly ag)	$ - Primarily agricultural	Y	Recommended	2 lane alternative wasn't included in Level 1, but once traffic modeling was completed, found that a 2-lane build alternative was needed because intersection improvements offer benefits over No Build and there is not significant operational differences between 2-lane and 4-lane sections.
		2 Lanes (+1 Alternating passing lane)	Typical	10'	-	Bikes on shoulder	No Exceptions/Variances	Moderate	No Change	Substantial - FHWAs Crash Modification Factor (CMF) Clearinghouse includes a study that states that widening a shoulder from 2 to 10 ft yields a CMF of 0.58 and Crash Reduction Factor of 42% for vehicle/bicycle crashes.	Moderate	Exceeds Minimum	Neutral (Slightly better cross-section for turns, allows some passing)	No Change* (TTI 1.14 to TTI 1.13)	No Change* (PTI 1.25 to PTI 1.26)	No Change* (TT 6.4 to TT 6.3)	No Change*	No Change	Substantial - This segment includes 2' gravel shoulders, which are not usable by bicyclists. Therefore, 10' paved shoulders would accommodate bikes where there were not previously accommodated and would be a substantial improvement.	Major	Yes, can accommodate buses	Historic - one officially eligible or listed on the SRHP (CO 52). Difficult Land Uses (20 oil and gas wells), Traffic Noise (rural homes between CR 31 to CR41) Potential for 401permit and Colorado fill/dredge permit	High	WELD COUNTY Fair FORT LUPTON Good - In the interim until build out in this area. Prefer separated bike lane from roadway HUDSON Good (closely aligned)	Low (mainly ag)	$ - Primarily agricultural	Y	Not Recommended	High level of impact to access points along segment not offset by operational improvements.
		4 Lanes	Typical	10'	Two-Way Left Turn	Bikes on shoulder	No Exceptions/Variances	Moderate	No Change	Substantial - See cell above	Moderate	Exceeds Minimum	Improves (Wider cross-section for turns, allows passing)	No Change (TTI 1.14 to TTI 1.09)	No Change (PTI 1.28 to PTI 1.23)	No Change (TT 6.5 to TT 6.0)	No Change	No Change	Substantial - See cell O45	Major	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - one officially eligible or listed on the SRHP (CO 52) Difficult Land Uses (20 oil and gas wells), Traffic Noise (rural homes between CR 31 to CR41) Potential for 401permit and Colorado fill/dredge permit	High	WELD COUNTY Good FORT LUPTON Good - Prefer separated bike lane from roadway HUDSON Good (closely aligned)	Low	$ - Primarily agricultural	Y	Carried Forward	
	EXCLUDED AREA: I-76 from WCR 43 to Dahlia St. Interchange constructed in 2020/2021.																												
	Dahlia St. to WCR 49 (Hudson)	2 Lanes	No Build	2-10'	At Intersections	None	No Exceptions/Variances	Worsens	No Change	No Change	Worsens	Does Not Meet Minimum	Limits	No Change (TTI 1.08 to TTI 1.09)	No Change (PTI 1.25 to PTI 1.23)	No Change (TT 2.2 to TT 2.2)	No Change	No Change	No Change	No Change	Yes, can accommodate buses	No Impact	No Change	WELD COUNTY No Comment FORT LUPTON No Comment HUDSON Poor (significant variations)	Low	None	N	Not Recommended	
		2 Lanes	Typical	10'	Two-Way Left Turn	Bikes on shoulder	No Exceptions/Variances	Moderate	Moderate - LTS improves to 3 with continuous shoulders based on the criteria for bicyclists in mixed traffic. This segment of CO 52 includes a single travel lane in each direction and has posted speed limits of 25 - 30 mph through Hudson.	Substantial		Exceeds Minimum	Improves (Better cross-section for turns)	No Change (TTI 1.09 to TTI 1.11)	No Change (PTI 1.23 to PTI 1.25)	No Change (TT 2.2 to TT 2.2)	No Change	Moderate - The provision of 10' shoulders under a two lane configuration would provide a moderate improvement to local north-south bicycle connectivity within the Town of Hudson. TWLTL provides width for treatments such as raised medians and median refuges at intersections for left-turning bicycles.	Substantial - 10' shoulders existing along the short segment east of Dahlia in Hudson. Majority of this segment includes 2' gravel shoulders, which are not usable by bicyclists. Therefore, 10' paved shoulders would accommodate bikes where there were not previously accommodated and would be a substantial improvement.	Major - BLOS is B	Yes, can accommodate buses	Historic - three officially eligible or listed on the SRHP (Burlington Northern and Santa Fe, Neres Canal Segment, CO 52) Difficult Land Uses (3 oil and gas wells, one railroad crossing, Parks and Open Space (Hudson Memorial Park), Traffic Noise (homes in the town of Hudson and places of worship in the town of Hudson - First Baptist Church, James Memorial UMC, and Grace Lutheran).	High	WELD COUNTY Good FORT LUPTON No Comment HUDSON Fair (some variations between alternatives)	Low	$$ - Hudson residential and commercial	Y	Carried Forward (within Hudson) Recommended (outside of Hudson)	Intersection improvements are adequate. Continuous two-way left-turn lane is not required component.
				Urban	Two-Way Left Turn	Peds on sidewalk, bike lanes	No Exceptions/Variances		Substantial - LTS improves to 1 with the provision of 6-foot bike lanes. This segment of CO 52 includes a single travel lane in each direction and has posted speed limits of 25 - 30 mph through Hudson.	Substantial		Exceeds Minimum	Improves (Better cross-section for turns)	No Change (TTI 1.09 to TTI 1.11)	No Change (PTI 1.23 to PTI 1.25)	No Change (TT 2.2 to TT 2.2)	No Change	Substantial - The provision of bike lanes under a two lane urban configuration would provide a substantial improvement to local north-south bicycle connectivity within the Town of Hudson. TWLTL provides width for treatments such as raised medians and median refuges at intersections for left-turning bicycles from the minor side streets.	Substantial - Due to the provision of bike lanes	Major	Yes, can accommodate buses	Historic - three officially eligible or listed on the SRHP (Burlington Northern and Santa Fe, Neres Canal Segment, CO 52) Difficult Land Uses (3 oil and gas wells, one railroad crossing, Parks and Open Space (Hudson Memorial Park), Traffic Noise (homes in the town of Hudson and places of worship in the town of Hudson - First Baptist Church, James Memorial UMC, and Grace Lutheran).	High; especially in Hudson town center area identified as community center	WELD COUNTY Good FORT LUPTON No Comment HUDSON Good (closely aligned)	low	$$ - Hudson residential and commercial	Y	Recommended (within Hudson) Not Recommended (outside of Hudson)	
		4 Lanes	Typical	10'	Two-Way Left Turn	Bikes on shoulder	No Exceptions/Variances	Moderate	Moderate - LTS improves to 3 with continuous shoulders based on the criteria for bicyclists in mixed traffic. This segment of CO 52 includes a single travel lane in each direction and has posted speed limits of 25 - 30 mph through Hudson.	Substantial		Exceeds Minimum	Improves (Wider cross-section for turns, allows passing)	No Change (Not Explicitly Modeled)	No Change (Not Explicitly Modeled)	No Change (Not Explicitly Modeled)	No Change (Not Explicitly Modeled)	Minor - The provision of 10' shoulders under a four-lane lane configuration would provide a moderate improvement to local north-south bicycle connectivity within the Town of Hudson. However, a four lane cross-section results in higher potential vehicle-bicycle conflicts than a two-lane cross section. TWLTL provides width for treatments such as raised medians and median refuges at intersections for left-turning bicycles from the minor side streets.	Substantial - See cell above	Major - BLOS is B	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - three officially eligible or listed on the SRHP (Burlington Northern and Santa Fe, Neres Canal Segment, CO 52) Difficult Land Uses (3 oil and gas wells, one railroad crossing, Parks and Open Space (Hudson Memorial Park), Traffic Noise (homes in the town of Hudson and places of worship in the town of Hudson - First Baptist Church, James Memorial UMC, and Grace Lutheran).	Medium: Low in Hudson town center area where community plans have identified it as a community center and desire for 2 lanes; High elsewhere	WELD COUNTY Good FORT LUPTON No Comment HUDSON Fair (some variations between alternatives)	low	$$$ - Hudson residential and commercial	Y	Not Recommended	
				Urban	Two-Way Left Turn	Peds on sidewalk, bike lanes	No Exceptions/Variances	Moderate	Substantial - LTS improves to 1 with the provision of 6-foot bike lanes. This segment of CO 52 includes a single travel lane in each direction and has posted speed limits of 25 - 30 mph through Hudson.	Substantial		Exceeds Minimum	Improves (Wider cross-section for turns, allows passing)	No Change (Not Explicitly Modeled)	No Change (Not Explicitly Modeled)	No Change (Not Explicitly Modeled)	No Change (Not Explicitly Modeled)	Moderate - The provision of bike lanes under a four-lane lane configuration would provide a moderate improvement to local north-south bicycle connectivity within the Town of Hudson. A four lane cross-section results in higher potential vehicle-bicycle conflicts than a two-lane cross section. TWLTL provides width for treatments such as raised medians and median refuges at intersections for left-turning bicycles from the minor side streets.	Substantial - Due to the provision of bike lanes	Major	Yes, can accommodate buses and allow vehicles to pass slow buses	Historic - three officially eligible or listed on the SRHP (Burlington Northern and Santa Fe, Neres Canal Segment, CO 52) Difficult Land Uses (3 oil and gas wells, one railroad crossing, Parks and Open Space (Hudson Memorial Park), Traffic Noise (homes in the town of Hudson and places of worship in the town of Hudson - First Baptist Church, James Memorial UMC, and Grace Lutheran).	Medium: Low in Hudson town center area where community plans have identified it as a community center and desire for 2 lanes; High elsewhere	WELD COUNTY Good FORT LUPTON No Comment HUDSON Good (closely aligned)	Medium	$$$ - Hudson residential and commercial	Y	Not Recommended	
Segment 5 - WCR 49 to CO 79	Full Segment 5	2 Lanes	No Build	0'-8'	At Intersections	None	No Exceptions/Variances		No Change	No Change		Does Not Meet Minimum	Limits	No Change (TTI 1.08 to TTI 1.09)	No Change (PTI 1.23 to PTI 1.21)	No Change (TT 10.0 to TT 10.1)	No Change	No Change	No Change	No Change	Yes, can accommodate buses	No Impact	No Change	WELD COUNTY No Comment KEENESBURG Poor - from 49 to 59, lots of bicycles using the roadway. Current lack of shoulders is a safety concern.	Low	None	N	Not Recommended	
		2 Lanes	Typical	10'	At Intersections	Bikes on shoulder	No Exceptions/Variances	Moderate	No Change	Substantial - FHWAs Crash Modification Factor (CMF) Clearinghouse includes a study that states that widening a shoulder from 0 to 10 ft yields a CMF of 0.51 and Crash Reduction Factor of 49% for vehicle/bicycle crashes.	Moderate	Exceeds Minimum - Per AASHTOs Policy on Geometric Design of Highways and Streets, "where bicyclists and pedestrians are to be accommodated on the shoulders, a minimum usable shoulder width of 4 ft should be considered." Additional shoulder width is also desirable if motor vehicle speeds exceed 50 mph; if use by heavy trucks, buses, or recreational vehicles is considerable; or if static obstructions exist at the right side of the roadway.	Neutral (Slightly better cross-section for turns with wider shoulders)	No Change (TTI 1.09 to TTI 1.10)	No Change (PTI 1.21 to PTI 1.23)	No Change (TT 10.1 to TT 10.1)	No Change	No Change - Review of existing and proposed N-S bike facilities near this segment shows that the provision of bike facilities on CO 52 would not connect any major N-S bike routes and therefore, would result in no change to N-S connections along this segment.	Substantial - Majority of this segment does not include shoulders. Therefore, 10' paved shoulders would accommodate bikes where there were not previously accommodated and would be a substantial improvement.	Major - Per Ch 14 of CDOTs Roadway Design Guide Table 14-3, the ADT, HV%, Speed Limit, and Shoulder Width along this segment result in a BLOS of B	Yes, can accommodate buses	Historic - two officially eligible or listed on the SRHP (CO 52 and Prospect Valley School). Seve oil and gas wells. Banner Lakes State Wildlife are.	High - unlikely to impact whether area land uses stay the same or redevelop long term	WELD COUNTY Poor KEENESBURG Good	Low - ROW adjacent to CO 79 is tight and may be a complicated acquisition.	$ - Primarily agricultural	Y	Recommended	
			Option	-	Two-Way Left Turn	-	No Exceptions/Variances	Moderate	No Change	Substantial - See cell above	Moderate	Exceeds Minimum	Improves (Better cross-section for turns)	No Change (TTI 1.09 to TTI 1.10)	No Change (PTI 1.21 to PTI 1.23)	No Change (TT 10.1 to TT 10.1)	No Change	No Change	Substantial	Major - BLOS is B	Yes, can accommodate buses	Historic - two officially eligible or listed on the SRHP (CO 52 and Prospect Valley School). Seve oil and gas wells. Banner Lakes State Wildlife are.	High - unlikely to impact whether area land uses stay the same or redevelop long term	WELD COUNTY Good - Turn lanes should be the priority KEENESBURG TWLTL not needed	Low	$ - Primarily agricultural	Y	Not Recommended	Intersection improvements are adequate. Continuous two-way left-turn lane is not required component.
				8'	-		No Exceptions/Variances	Moderate	No Change	Moderate - Widening the shoulder from 0 to 8 ft yields a CMF of 0.58 and CRF of 42%	Moderate	Exceeds Minimum	Neutral	No Change (TTI 1.09 to TTI 1.10)	No Change (PTI 1.21 to PTI 1.23)	No Change (TT 10.1 to TT 10.1)	No Change	No Change	Substantial	Major - BLOS is B	Yes, can accommodate buses	Historic - two officially eligible or listed on the SRHP (CO 52 and Prospect Valley School). Seve oil and gas wells. Banner Lakes State Wildlife are.	High - unlikely to impact whether area land uses stay the same or redevelop long term	WELD COUNTY Poor KEENESBURG Poor - prefer the wider shoulder in anticipation of future growth, especially to CR 59 intersection.	Low	$ - Primarily agricultural	Y	Carried Forward	Intersection improvements are adequate. Continuous two-way left-turn lane is not required component.
Advanced Study Area	Segment 1	US 287 Intersection	Traditional Intersection (assumes existing project)				Intersections were evaluated separately since other performance measures are used to compare alternatives.																	BOULDER COUNTY Good: Our TMP shows examples of addressing traffic through various "traditional" methods. The TMP emphasizes improvements to the intersections to address safety and operational efficiency.				Carried Forward	
			Non-Traditional Intersection (CFI, Roundabout, Quadrant Road, etc.)																					BOULDER COUNTY Poor: We do not support CFI and the US287 corridor plan shows queue jumps for Bus Rapid Transit at the intersection of CO-52 and US-287 and a PnR in the southwest corner of the intersection. TMP also shows a PnR along with transit enhancements.				Carried Forward	
			Grade-Separated Intersection																					BOULDER COUNTY Poor: We do not support grade separation; please, remove from further consideration (strikethrough for emphasis)				Not Recommended	
	Segment 2	Reverse Curves	8% Curves				Intersections were evaluated separately since other performance measures are used to compare alternatives.																	WELD COUNTY No Comment DACONO Poor - too similar to existing conditions. FREDERICK Fair				Not Recommended	Meets minimum design criteria, but does not provide any advantages. Imposes additional restrictions on future improvements.
			6% Curves																					WELD COUNTY Good DACONO Good - Will be eastern edge of highest density development. More flexibility is better, but neither option between 4% and 6% stands out. Prefer to flatten curves from safety perspective. Also good to maximize room allowed for development. FREDERICK Good - softening the curve would be preferred				Recommended	Improved safety. Allows for centralized signal location in future (consistent with ACP).
			4% Curves																					WELD COUNTY Fair DACONO Good - see notes above FREDERICK Fair				Carried Forward	Improved safety, but 6% option preferred by local agencies.
	Segment 5	WCR 59	No Build				Intersections were evaluated separately since other performance measures are used to compare alternatives.																	WELD COUNTY No Comment KEENESBURG Poor				Not Recommended	
			Traditional Intersection Improvements																					WELD COUNTY Signalization? Good KEENESBURG Fair - would be open to considering short-term improvement (i.e. signal) to help mitigate current safety concerns				Not Recommended	Traditional intersection improvements offer minimal benefits until such time as a signal is warranted.
			Non-traditional Intersection Improvements																					WELD COUNTY Roundabout? Good KEENESBURG Good - As a long-term solution, in favor of a roundabout at this location to help slow traffic				Recommended	Roundabout provides significant safety and operational benefits when compared to non-traditional improvements at this location. Will accommodate future traffic without requiring signalization.
Intersection Type	Traditional Intersection Improvements		Element				No Exceptions/Variances						Neutral								Yes						Y	Carried Forward	
	Non-Traditional Intersection Improvements (CFI, Roundabout, Quadrant Road, etc.)		Element				No Exceptions/Variances						Neutral (Can be positive or negative depending on design)								Yes (but may not be transit friendly)						Y	Carried Forward	US 287 - CFI or other non-traditional should be considered WCR 59 - Roundabout
	Grade Separated Interchange		Element				No Exceptions/Variances						Improves								Yes (but not transit friendly)						Y	Not Recommended	No locations along corridor warrant this level of improvement.
Other Elements	Transit Accommodations		Element				No Exceptions/Variances						Neutral								Yes						Y	Not Recommended	Improvements should not preclude transit, but no separate accommodations have been identified at this time.
	Transportation Technology (Active Traffic Management)		Element				No Exceptions/Variances						Improves								Yes (could include TSP)						Y	Carried Forward	Limited application
	Wildlife Crossings		Element				No Exceptions/Variances						Neutral								Yes						Y	Not Recommended	No locations along corridor have crash data supporting installation of large animal crossings.
	Multi-Use Path		Element				No Exceptions/Variances						Neutral								Yes, enhances access						Y	Carried Forward	As identified in segment recommendations
	Enhanced Bike/Pedestrian Crossings		Element				No Exceptions/Variances						Neutral								Yes, enhances access						Y	Recommended	As identified in PEL
	Traffic Signal Optimization		Element				No Exceptions/Variances						Improves								Yes						Y	Recommended	Best practice
	Travel Demand Management (TDM)		Element				No Exceptions/Variances						Neutral								Yes						Y	Recommended	Currently limited opportunities, but should be revisited as a part of future projects. Consider developer driven opportunities.