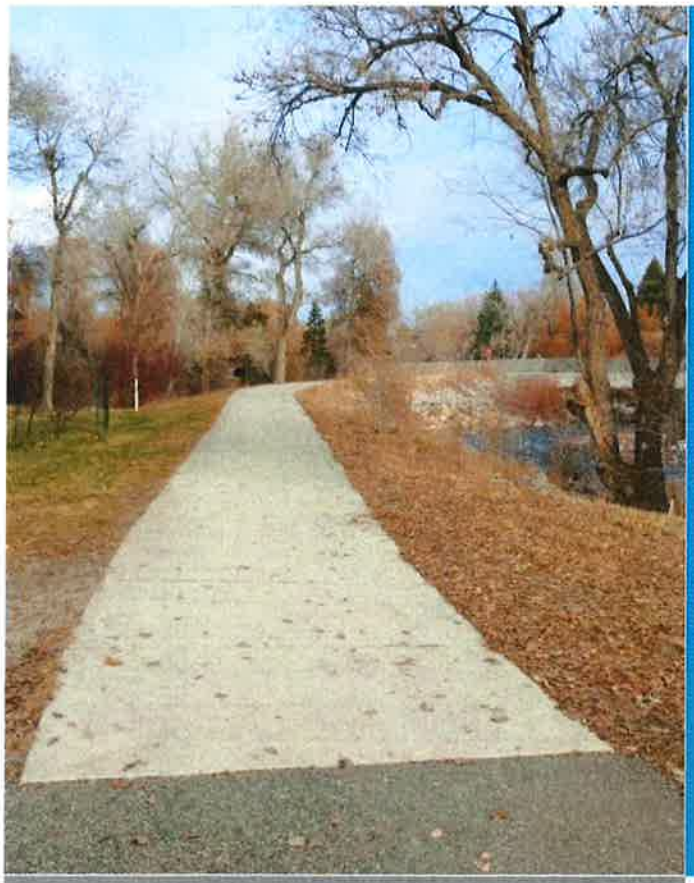

SAFE ROUTES TO SCHOOLS AND WALKABLE, BIKEABLE ROUTES STUDY

Prepared for the City of Lander, Wyoming

April 2020

HDR

Contents

Page No.

Executive Summary 1

1. Introduction 1

2. Public Engagement 1

3. Safe Routes to School Plan Update 2
- 3.1 Safe Routes for Non-Drivers 3
  - 3.1.1 Existing Conditions Assessment 3
  - 3.1.2 Proposed Safe Routes for Non-Drivers 4
  - 3.1.3 School-Specific Issues and Recommendations 30
- 3.2 9th Street Corridor 55
  - 3.2.1 Revised Cross-Section 55
- 3.3 Traffic Calming 56
  - 3.3.1 9th Street and Sweetwater Street 56
  - 3.3.2 9th Street and Dabich Avenue 57
  - 3.3.3 9th Street and Cascade Street 58
  - 3.3.4 9th Street between Cascade Street and Fremont Street 59
  - 3.3.5 Phased Implementation of Traffic Calming Measures 61

4. Lander Area Pathway System Update (Walkable Bikeable Routes Study) 61
- 4.1 Current Lander Area Pathway System 62
- 4.2 Proposed Lander Area Pathways System 66
- 4.3 Proposed Bicycle Facilities Types 69
- 4.4 Proposed Improvements to Bicycle Facilities 71
  - 4.4.1 Mortimore Lane 71
  - 4.4.2 Baldwin Creek Road 72
  - 4.4.3 Main Street and Highway 789 73
  - 4.4.4 Garfield Street and Lincoln Street 73
  - 4.4.5 On-street Bike Paths between Lincoln and Garfield 79
  - 4.4.6 1st and Main Intersection, Trail Crossing, and Shared Use 80
  - 4.4.7 Main Street from 9th to Baldwin Creek 82
- 4.5 Pathways Parking and Wayfinding 84
  - 4.5.1 Existing Conditions and Recommendations 84
  - 4.5.2 General Improvements 85
- 4.6 Additional Recommended Improvements 85
  - 4.6.1 Storm Grates Upgrade 85
  - 4.6.2 Transitions to Street Grade at Pathway/Street Connections 86
  - 4.6.3 Drainage Issues on Bridger Street at the New Off-street Path 87
  - 4.6.4 Pedestrian Bridge on Highway 789 across the Popo Agie River 87

Appendices

Appendix A. Maps with Public and Stakeholder Comments
Appendix B. Cost Groups Map
Appendix C. Pathways Facility Types

Figures

Page No.

Figure 1. Safe Routes for Non-Drivers 5
Figure 2. Cost Group 1—ADA Ramps and Sidewalk Upgrades 8
Figure 3. Cost Group 2—ADA Ramps and Sidewalk Upgrades 11
Figure 4. Cost Group 3—ADA Ramps and Sidewalk Upgrades 14
Figure 5. Cost Group 4—ADA Ramps and Sidewalk Upgrades 17
Figure 6. Cost Group 5—ADA Ramps and Sidewalk Upgrades 20
Figure 7. Cost Group 6—ADA Ramps and Sidewalk Upgrades 23
Figure 8. Cost Group 7—ADA Ramps and Sidewalk Upgrades 26
Figure 9. Gannett Peak Elementary School—Identified Issues 33
Figure 10. Gannett Peak Elementary School—Proposed Improvements 35
Figure 11. Gannett Peak Elementary Southern Entrance Access Improvements 36
Figure 12. Gannett Peak Elementary Parking Improvements 38
Figure 13. Baldwin Creek Elementary School—Identified Issues 40
Figure 14. Baldwin Creek Elementary School—Proposed Improvements 43
Figure 15. Baldwin Creek Road Diet 44
Figure 16. Lander Middle School—Identified Issues 46
Figure 17. Lander Middle School—Proposed Improvements 48
Figure 18. Lander Valley High School—Identified Issues and Proposed Improvements 50
Figure 19. Pathfinder High School—Identified Issues 52
Figure 20. Pathfinder High School—Proposed Improvements 54
Figure 21. 9th Street—Proposed Bike Lanes Cross-Section 55
Figure 22. Reconfigured 9th Street and Sweetwater Street Intersection 57
Figure 23. New Median on 9th Street at Dabich Avenue 58
Figure 24. New Traffic Circle and All-Way Stop at 9th Street and Cascade Street intersection 59
Figure 25. Traffic Calming Gateway Treatment at 9th Street North of Fremont Street 60
Figure 26. Example of New Median on 9th Street between Shoshone Street and 7th Street 61
Figure 27. Current LAPS Map 63
Figure 28. Updated Existing LAPS Map 64
Figure 29. Proposed LAPS Map 68
Figure 30. Lincoln Street—Existing Cross-Section 74
Figure 31. Lincoln Street (or 49' Wide Street)—Proposed Double Parking Cross-Section 75
Figure 32. Garfield Street—Existing Cross-Section 76
Figure 33. Garfield Street—Proposed Single Parking Lane Cross-Section 77
Figure 34. Garfield Street—Proposed Double Parking Lane Cross-Section 78
Figure 35. Pedestrian, Bicycle, and Vehicular Crashes 80
Figure 36. Bike Box Option 80
Figure 37. New signal and Pedestrian Refuge Median for Main Street/US 287 and 1st Street Intersection 81
Figure 38. Proposed Dedicated Bike Lanes on Main Street 83
Figure 39. Examples of Bicycle Safe Grates 86

Figure 40. Preliminary Location for a Pedestrian/Bicycle Bridge near Valley View Drive 88

Tables

Page No.

Table 1. Recommended Safe Routes for Non-Drivers Improvement Projects.....1
Table 2. Recommended Pathway Projects*.....2
Table 3. Existing Conditions of Sidewalks, Driveways and Ramps 4
Table 4. Construction Cost Estimates for Sidewalks, Driveways and Ramps for the Lander Safe Routes 6
Table 5. Cost Group 1 Estimates for ADA Accessible Ramps and Sidewalks Upgrades 9
Table 6. Estimating Worksheet for TAP Grant Funding for Cost Group 1 10
Table 7. Cost Group 2 Estimates for ADA Accessible Ramps and Sidewalks Upgrades 12
Table 8. Estimating Worksheet for TAP Grant Funding for Cost Group 2 13
Table 9. Cost Group 3 Estimates for ADA Accessible Ramps and Sidewalks Upgrades 15
Table 10. Estimating Worksheet for TAP Grant Funding for Cost Group 3 16
Table 11. Cost Group 4 Estimates for ADA Accessible Ramps and Sidewalks Upgrades 18
Table 12. Estimating Worksheet for TAP Grant Funding for Cost Group 4 19
Table 13. Cost Group 5 Estimates for ADA Accessible Ramps and Sidewalks Upgrades 21
Table 14. Estimating Worksheet for TAP Grant Funding for Cost Group 5 22
Table 15. Cost Group 6 Estimates for ADA Accessible Ramps and Sidewalks Upgrades 24
Table 16. Estimating Worksheet for TAP Grant Funding for Cost Group 6 25
Table 17. Cost Group 7 Estimates for ADA Accessible Ramps and Sidewalks Upgrades 27
Table 18. Estimating Worksheet for TAP Grant Funding for Cost Group 7 28
Table 19. NACTO All Ages and Abilities Bikeways Decision Matrix 70

Photos

Photo 1. Public Meeting held on October 21, 2019 1
Photo 2. Example of School Zone Signage 30
Photo 3. In-Street Crosswalk Sign.....49
Photo 4. Single Parking Space Adjacent to the T-Intersection of 9th Street and Dabich Avenue 51
Photo 5. Bike Route Signage 65
Photo 6. Greenway Behind the Trinity Episcopal Church Connecting with 2nd Street 66
Photo 7. Double White Edgeline with Cross-Hatching For Buffer Striping 72
Photo 8. Shared Lane Markings, also Known as "Sharrows 73
Photo 9. Wayfinding Examples.....84
Photo 10. Example of Kiosks Used in Other Communities 85
Photo 11. Example of Existing Storm Grates 85
Photo 12. Example Locations around Lander with Full Curb Sections.....86

Executive Summary

This report was prepared on behalf of the City of Lander, Wyoming (the City). It serves two purposes—updating the 2009 Safe Routes to Schools Plan based on the current Fremont County School District No. 1 (School District) structure and reviewing and updating the Lander Area Pathway System (Walkable, Bikeable Routes Study). With input from the public and stakeholders, these updates identify improvements that will improve walking and bicycling in Lander for people of all ages and abilities.

SAFE ROUTES FOR NON-DRIVERS

The Safe Routes to Schools update involved an evaluation of the existing and planned routes in the 2009 plan, with recommended modifications given the current school system structure. As part of the evaluation, corridors for Safe Routes for Non-Drivers were identified. Existing sidewalks on these routes were evaluated, locations where new sidewalk is needed were identified, and corner ramps were evaluated. Existing crosswalks were reviewed and locations for Rectangular Rapid Flashing Beacons (RRFBs) were identified. Table 1 is a summary of the recommended improvement projects for Safe Route corridors broken into Cost Groups. The project totals shown include estimated construction cost, 10% contingency, 15% preliminary engineering costs, and 10% construction engineering costs.

Table 1. Recommended Safe Routes for Non-Drivers Improvement Projects

Cost Group	Description	Total Project Estimate	Fed. Match (80%)	Local Match (20%)
Cost Group 1	For Safe Route Corridors surrounding Gannett Peak Elementary School. Cost for ADA Ramps, Sidewalks, and three RRFB Crossings.	$624,645	$499,716	$124,929
Cost Group 2	For Safe Route Corridors on Jefferson and 4th Street. Cost for ADA Ramps, Sidewalks, and one RRFB Crossing.	$623,970	$499,176	$124,794
Cost Group 3	For Safe Route Corridors between Lander Middle School and Pathfinder High School. Cost for ADA Ramps, Sidewalks, and one RRFB Crossing.	$624,983	$499,986	$124,997
Cost Group 4	For Safe Route Corridors near Baldwin Creek Elementary. Cost for ADA Ramps, Sidewalks, and three RRFB Crossings.	$624,949	$499,959	$124,990
Cost Group 5	For Safe Route Corridors south of Sweetwater Street on 9th, 7th, 4th, and Fremont. Cost for ADA Ramps, Sidewalks, and one RRFB Crossing.	$624,996	$499,997	$125,000
Cost Group 6	For Safe Route Corridors on 4th, 2nd, Amoretti, and other corridors northeast of Cascade. Cost for ADA Ramps, Sidewalks, and two RRFB Crossings.	$623,970	$499,176	$124,794
Cost Group 7	For Safe Route Corridors on 4th, 5th, Cascade, and 2nd. Cost for ADA Ramps, Sidewalks, and one RRFB Crossing.	$624,982	$499,986	$124,997
	Total	**$4,372,497**	**$3,497,996**	**$874,501**
	Rounded Total	**$4,375,000**	**$3,500,000**	**$875,000**

The table above assumes using TAP grants to help pay for improvements. This would equate to seven (7) funding cycles. Each TAP grant funding cycle typically takes 2 years for implementation (application and approval), design, and project completion.

CITY WIDE ADA TRANSITION PLAN

It is recommended that the City of Lander also pursue funding for a City Wide ADA Transition Plan. This plan would evaluate all of the existing street right of way in Lander (in addition to the Safe Route Corridors discussed above) for ADA accessibility. This study could also be paid by TAP Grant Funding, possibly in an off year as one of the Cost Groups above is underway (assuming WYDOT allows local governments to have more than one project at a time).

SIGNAGE INVENTORY

The City should also conduct a signage inventory and make improvements to ensure school zones meet current MUTCD Standards.

SCHOOL-SPECIFIC RECOMMENDATIONS

Improvements at Gannett Peak Elementary include:

- Pull-in Angle Parking
- Sidewalk Trial at 2nd St Access
- Sidewalk Improvement at 2nd St Access*
- RRFB Crossing at Popo Agie Street and 7th Street*
- RRFB Crossing at Canyon Street and 7th Street*
- RRFB Crossing at 2nd Street and alley access at southern edge of Gannett Peak
- Correcting School Zone Signage

*Note: Costs for these improvements included in Cost Group 1 discussed above.

Improvements at Baldwin Creek Elementary include:

- Create mid-block RRFB Crossing on Smith Street*
- Automate pedestrian signal timing at Highway and Baldwin Creek Road
- Implement Lane Diet on Baldwin Creek Road (3-lane with bike lanes)
- Correcting School Zone Signage

*Note: Costs for these improvements included in Cost Group 4 discussed above.

Improvements at Lander Middle School include:

- Redesign parking lot entrance/exit northeast of school
- Reverse one-way traffic in access south of school
- Install mid-block RRFB Crossing on 8th Street near school entrance and make ramps ADA accessible*
- Install crosswalk at Jefferson and 8th Street

*Note: Costs for these improvements included in Cost Group 3 discussed above.

Improvements at Lander Valley High School include:

- Perform traffic study for the three southern approaches
- Install portable in-street crosswalk sign

Improvements at Pathfinder High School and 9th Street Corridor include:

- Block off 5th leg on 9th Street Sweetwater Street intersection*
- 4-way Stop at 9th and Sweetwater
- 4-way Stop at 9th and Cascade
- Install off-street pathway between 7th Street and 9th Street*
- Sign and paint "No parking" in front of pool entrance
- Relocate swim meet bus parking to Sweetwater Street
- Study for converting tennis court to parking Lot

*Note: Costs for these improvements were not included in Cost Group 4.

LANDER AREA PATHWAY SYSTEM UPDATE

Walkable and Bikeable Routes in Lander were reviewed, evaluated, and recommendations and alternatives were identified. This portion of the study involved analysis of the existing Lander Area Pathway System (LAPS), recommendations for upgrades to the existing facilities, and recommended new routes. Analysis was conducted using the NACTO *Contextual Guidance for Selecting All Ages & Abilities Bikeways* decision matrix (Table 19, page 70). Table 2 contains a summary of the recommended improvement projects for pathways.

Table 2. Recommended Pathway Projects*

Project Type	General Locations
Bike Lanes	Garfield Street, Lincoln Street, 9th Street, 8th Street, 2nd Street, Dillon Drive, Enterprise Boulevard
Advisory Bike Lanes	Baldwin Creek Road, Squaw Creek Road, 2nd Street, Chittim Road, Hillcrest Drive, Mortimore Lane
Buffered Bike Lanes	Fremont Street, Buena Vista Drive
Protected Bike Lanes	Baldwin Creek Road, Main Street
Bicycle Boulevards	Academic Way, Amoretti Street, 8th Street, Jefferson Street, 2nd Street, Eugene Street, Leedy Drive
Side Paths	Main Street/US 287, WAY 789,
Multi-Use Shoulder	Sinks Canyon Road, Mortimore Lane
Paved Trails	Existing trail locations, plus new trail along south edge of Popo Agie Park
Unpaved Trails	Existing trail locations, plus new trails in McManus Park, along the Flat Ditch, parallel to Smith Street, and around Central Wyoming College

*Cost estimates were not included for Pathway Recommendations

A new LAPS Map has been generated showing the different bikeable locations in Lander mentioned in the table above.

The shared use roadway, or sharrow, between Lincoln and Garfield that cross Main Street should be studied further to determine if bike boxes or other treatments would help improve safety at these intersections.

The 1st Street and Main Street intersection should be studied further with a Gap Study to determine if a HAWK signal or a pedestrian refuge median would improve safety. Shared use treatments should be evaluated in more detail on Main Street between 1st Street and Buena Vista (including 11' wide lanes or 10' wide side path and access to off street pathway near bridge).

The City should evaluate the intersection of 3rd Street and Cascade Street with traffic counts and determine if 4-way stop intersection is needed or if the stop condition should be on Cascade Street instead of on 3rd street. The city should find ways to encourage bikes and pedestrians to use the Greenway behind the Trinity Episcopal Church when navigating between 2nd Street and City Park.

Existing shared use lanes on Main Street between 9th Street and Baldwin Creek should be evaluated. It is recommended that on-street parking on shoulder be eliminated and dedicated bike lanes be designated with emergency parking only.

A project designing wayfinding signage and paint stripping for vehicles, pedestrians, and bikes could be conducted in Lander.

Bike safe storm grates should be installed throughout Lander, especially on roadways designated for shared use.

Transitions between streets and off-street pathways should be evaluated and redesigned through-out Lander.