



Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT



September 2012



Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT

ENVIRONMENTAL ASSESSMENT

FHWA — WYDOT — EA-12-04

Prepared for:

Wyoming Department of Transportation

and

**U.S. Department of Transportation
Federal Highway Administration**

Submitted Pursuant to:

42 USC 4332(2)(c)

Approved:

Timothy L. Stark, P.E.
Environmental Services Engineer
Wyoming Department of Transportation

Joseph Dailey
Division Administrator
Wyoming Division
Federal Highway Administration

9-12-12

Date of Approval

9-12-12

Date of Approval



Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT

Information Availability

The following individuals may be contacted for further information regarding the proposed project and the Environmental Assessment.

Mr. Timothy L. Stark, P.E.
Wyoming Department of Transportation
Environmental Services
P.O. Box 1708
Cheyenne, Wyoming 82003-1708
Fax: 307-777-4378
E-mail: dot-harney-street@wyo.gov

Mr. Lee Potter
Federal Highway Administration
2617 E. Lincoln Way, Suite D |
Cheyenne, Wyoming 82001-5662



Table of Contents

Chapter 1: Purpose and Need for Action	1-1
1.1 Planning Considerations.....	1-1
1.2 Why is this Project Needed?.....	1-4
Provide a Centrally Located Continuous East-West Transportation System Connection	1-4
Provide Transportation Service, Increased Capacity, and Improved Functionality.....	1-5
Improve Operational Efficiency for Bridge, Roadway, Intersections, Pavement, and Safety.....	1-5
Provide Transportation Service Consistent with Local Plans	1-11
1.3 In Summary	1-11
Chapter 2: Alternatives Analysis	2-1
2.1 What Alternatives Were Initially Considered?	2-1
Alternative 1 Options	2-2
Alternative 2 Options	2-4
Early Screening Process.....	2-6
2.2 What Alternatives Were Advanced for Detailed Environmental Analysis?	2-7
No-Build Alternative	2-7
Components Common to All Build Alternatives.....	2-8
Components Specific to Each Build Alternative	2-10
Chapter 3: Affected Environment, Impacts, And Mitigation.....	3-1
Environmental Resources.....	3-1
3.1 Resources Dismissed from Further Study.....	3-3
Farmlands.....	3-3
Noxious Weeds.....	3-3
Wildlife and Aquatic Resources	3-3
3.2 Resources Evaluated	3-3



3.3 Land Use and Zoning	3-3
Existing Land Use and Zoning	3-3
Future Land Use	3-5
Land Use Impacts	3-5
Mitigation for Land Use Impacts	3-7
3.4 Social Resources	3-7
Existing Social Conditions	3-7
3.5 Economic Resources	3-13
Existing Economic Conditions	3-13
Economic Impacts	3-14
3.6 Transportation and Traffic Issues	3-15
System Connectivity	3-15
Future Roadway Network Accommodation	3-16
3.7 Right-of-Way	3-16
Existing Conditions	3-16
Right-of-Way Impacts	3-17
Mitigation for Right-of-Way Impacts	3-18
3.8 Air Quality	3-20
3.9 Noise	3-21
Methodology	3-22
Traffic Data	3-22
Existing Noise Conditions	3-22
Noise Impacts	3-23
Noise Mitigation	3-24
Conclusions and Recommendations	3-31
3.10 Water Quality and Floodplains	3-32
Existing Conditions of Water Quality and Floodplains	3-32
Water Quality Impacts	3-34
Mitigation for Water Resources Impacts	3-35

3.11 Wetlands and Waters of the United States 3-35

Existing Conditions of Wetlands and Waters of the U.S.3-35

Mitigation for Wetland Impacts.....3-36

3.12 Threatened And Endangered Species 3-37

Mitigation for Threatened and Endangered Species:.....3-38

3.13 Visual Resources 3-38

Existing Conditions.....3-39

Visual Impacts3-39

Mitigation for Visual Impacts:3-42

3.14 Cultural Resources 3-43

Existing Conditions.....3-43

Section 106.....3-43

Cultural Resource Impacts.....3-47

Mitigation of Cultural Resources:3-49

3.15 Hazardous Materials 3-50

Existing Conditions.....3-50

Hazardous Materials Impacts3-51

Hazardous Materials Mitigation3-55

3.16 Parks and Recreation 3-56

Existing Conditions.....3-56

Impacts to Parks and Recreation3-57

Parks and Recreation Mitigation.....3-58

3.17 Summary of Impacts and Identification of Preferred Alternative..... 3-58

Chapter 4: Draft Section 4(i) Evaluation 4-1

4.1 Introduction..... 4-1

4.2 Summary of Project Purpose and Need..... 4-2

4.3 Alternatives Considered 4-2

Alternative 1 Options.....4-3

Alternative 2 Options4-7



4.4 Section 4(f) Properties	4-11
4.5 Avoidance Alternatives Analysis	4-14
No- Build Alternative	4-14
Rehabilitating the Clark Street Viaduct.....	4-14
Replacing the Clark Street Viaduct on Clark Street	4-15
At-Grade Crossing Alternative	4-15
Reynolds Street, Grand Avenue, and Sheridan Street Alignments.....	4-16
Alternative 2	4-17
Option 1B	4-18
Tunnel under Section 4(f) Properties.....	4-18
Bridge over Section 4(f) Properties.....	4-19
4.6 Use of Section 4(f) Properties	4-19
Description of Use for the Laramie, Hahn’s Peak, & Pacific Railway Corridor (948AB619)	4-20
Description of Use for Residence at 552 North Cedar Street (Site 48AB2279)	4-20
4.7 Least Overall Harm Analysis	4-21
Ability to Mitigate Adverse Impacts.....	4-21
Relative Severity of the Remaining Harm.....	4-22
Relative Significance of Each Property	4-22
Views of the SHPO	4-22
Degree to Which Each Alternative Meets the Purpose and Need	4-22
Magnitude, After Mitigation, of Adverse Impacts to Other Resources	4-23
Substantial Difference in Cost	4-23
Summary of Least Overall Harm.....	4-23
4.8 All Possible Planning to Minimize Harm	4-25
Mitigation for Impacts to Cultural Resources.....	4-25
4.9 Record of Coordination	4-26
SHPO Coordination under Section 106.....	4-26
Chapter 5: Comments And Coordination	5-1
5.1 How was Public Involvement Carried Out?	5-1

5.2 What Did the Public Have to Say About the Project? 5-2

5.3 How was Agency Scoping Carried Out? 5-2

5.4 How was Agency Scoping Carried Out? 5-2

5.5 What were the Agency Comments and Issues? 5-3

APPENDICES

Appendix A - Traffic

Appendix B - Noise Data and TNM Input/Output Tables

Appendix C - Cultural Resources Reports and Coordination

Appendix D - Scoping Report and Agency Coordination



List of Figures

Figure 1-1: Project Vicinity1-2

Figure 1-2: Current Laramie Transportation Network1-3

Figure 1-3: Level of Service (LOS) Definitions - Intersections.....1-9

Figure 2-1: Alternative 1 Corridor.....2-1

Figure 2-2: Alternative 2 Corridor.....2-2

Figure 2-3: Alternative 1 - Option 1A.....2-2

Figure 2-4: Alternative 1 - Option 1B2-3

Figure 2-5: Alternative 1 - Option 1C.....2-3

Figure 2-6: Alternative 1 - Option 1D.....2-4

Figure 2-7: Alternative 2 - Option 2A.....2-4

Figure 2-8: Alternative 2 - Option 2B2-5

Figure 2-9: Alternative 2 - Option 2C.....2-5

Figure 2-10: Alternative 2 - Option 2D.....2-6

Figure 2-11: Typical Sections for All Alternatives2-8

Figure 2-12: Alternative 1A2-10

Figure 2-13: Alternative 1C.....2-11

Figure 2-14: Alternative 1D2-12

Figure 3-1: Harney Street Viaduct Study Area3-2

Figure 3-2: Zoning3-4

Figure 3-3: Community Facilities.....3-8

Figure 3-4: Potential Minority and Low Income Populations.....3-11

Figure 3-5: No-Build Alternative Future Traffic Volume3-17

Figure 3-6: Alternative 1A Parcel Acquisitions3-19

Figure 3-7: Alternative 1C Parcel Acquisitions3-19

Figure 3-8: Alternative 1D Parcel Acquisitions3-20

Figure 3-9: Alternative 1A - Noise Sensitive Receptors.....3-24

Figure 3-10: Alternative 1C - Noise Sensitive Receptors.....3-25

Figure 3-11: Alternative 1D - Noise Sensitive Receptors.....3-26

Figure 3-12: FEMA Floodplains Maps.....3-33

Figure 3-13: Wetlands and Waters of the U.S.3-36

Figure 3-14: Threatened and Endangered Species.....3-37

Figure 3-15: NHRP Eligible and Listed Sites.....3-45

Figure 3-16: Potential Recognized Environmental Conditions (REC) Sites3-52

Figure 3-17: Parks.....3-57

Figure 4-1: Alternative 1 - Option 1A.....4-3

Figure 4-2: Alternative 1 - Option 1B4-4

Figure 4-3: Alternative 1 - Option 1C.....4-5

Figure 4-4: Alternative 1 - Option 1D.....4-6

Figure 4-5: Alternative 2 - Option 2A.....4-7

Figure 4-6: Alternative 2 - Option 2B4-8

Figure 4-7: Alternative 2 - Option 2C.....4-9

Figure 4-8: Alternative 2 - Option 2D.....4-10

Figure 4-9: Section 4(f) Properties.....4-11

Figure 4-10: Reynolds Street, Grand Avenue, and Sheridan Street Options.....4-16



List of Tables

Table 3-1: Harney Land Use Impacts (Acres).....	3-5
Table 3-2: Population Statistics	3-7
Table 3-3: Housing Characteristics (2010)	3-9
Table 3-4: Economic Trends	3-14
Table 3-5: Parcel Acquisitions (Estimated)	3-18
Table 3-6: Total CO ₂ Emissions.....	3-21
Table 3-7: FHWA Noise Abatement Criteria, Hourly A-Weighted Sound Level Decibels (dBA)	3-22
Table 3-8: Field Recorded and TNM Predicted Noise Levels	3-23
Table 3-9: Noise Mitigation Analysis for Barrier 1 (Alternative 1C)	3-27
Table 3-10: Noise Barrier Analysis for Barrier 1 (Alternative 1C).....	3-27
Table 3-11: Noise Mitigation Analysis for Barrier 2 (Alternative 1C)	3-28
Table 3-12: Noise Barrier Analysis for Barrier 2 (Alternative 1C).....	3-28
Table 3-13: Noise Mitigation Analysis for Barrier 3 (Alternative 1C)	3-29
Table 3-14: Noise Barrier Analysis for Barrier 3 (Alternative 1C).....	3-29
Table 3-15: Noise Mitigation Analysis for Barrier 4 (Alternative 1D).....	3-30
Table 3-16: Noise Barrier Analysis for Barrier 4 (Alternative 1D)	3-30
Table 3-17: Noise Mitigation Analysis for Barrier 5 (Alternative 1D).....	3-31
Table 3-18: Noise Barrier Analysis for Barrier 5 (Alternative 1D)	3-31
Table 3-19: Summary of Adverse Effect Determinations By Alternative	3-47
Table 3-20: Summary of EDR Listed and Orphaned Sites	3-53
Table 3-21: Summary of EDR Orphaned Sites (from WDEQ)	3-54
Table 3-22: Summary of Unlisted Sites.....	3-54
Table 3-23: Parks	3-57
Table 3-24: Summary of Impacts.....	3-59
Table 4-1: Section 4(f) Properties and Their Features.....	4-12
Table 4-2: Direct Uses of Section 4(f) Properties	4-20
Table 4-3: Adverse Impacts to Environmental Resources not Protected by Section 4(f).....	4-24

List of Acronyms

AADT	Average Annual Daily Traffic
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
ASTM	American Society for Testing and Materials
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CWA	Clean Water Act
dba	A-weighted decibel
EA	Environmental Assessment
EDR	Environmental Data Resources
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHGs	Greenhouse Gases
HHS	Department of Health and Human Services
LF	Landfill
LHPPRR	Laramie, Hahn's Peak and Pacific Railroad
LOS	Level of Service
LRDA	Laramie Railroad Depot Association
LRDM	Laramie Railroad Depot Museum
LTANKS	Leaking Underground Storage Tanks
MOA	Memorandum of Agreement



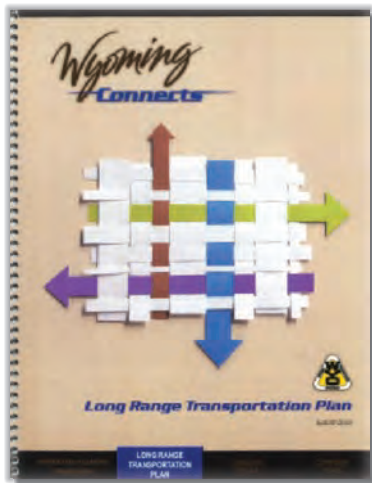
MPH	Miles Per Hour
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Policy Act
NO ₂	Nitrogen
NRHP	National Register of Historic Places
O ₃	Ozone
PM _{2.5}	Particulate Matter less than 2.5 micrometers
PM ₁₀	Particulate Matter less than 10 micrometers
PMJM	Preble's Meadow Jumping Mouse
RECs	Recognized Environmental Conditions
SHPO	State Historic Preservation Officer
SHWF	Solid and Hazardous Waste Facility
SO ₂	Sulfur Dioxide
SWF	Solid Waste Facility
TMDL	Total Maximum Daily Load
TNM	Traffic Noise Model
Uniform Act	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish & Wildlife Service
UST	Underground Storage Tank
VMT	Vehicle Miles Traveled
VRP	Voluntary Remediation Program
WYCOLO	Wyoming Colorado Railroad
WYDEQ	Wyoming Department of Environmental Quality
WYDOT	Wyoming Department of Transportation



Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT

Chapter 1: Purpose and Need for Action

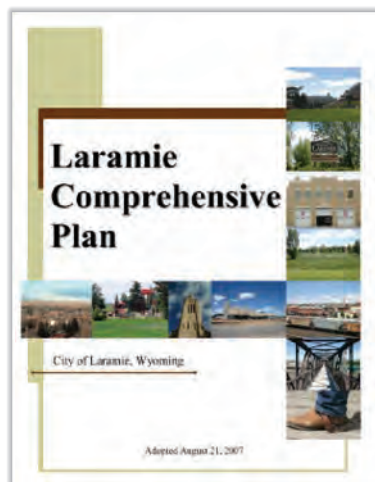


The Wyoming Department of Transportation (WYDOT) and the Federal Highway Administration (FHWA) are proposing to construct a new viaduct and associated connecting roadway over the Union Pacific Railroad (UPRR) in the City of Laramie, Wyoming (Figures 1-1 and 1-2).

The purpose of establishing a new viaduct and associated roadway over the railroad is to replace the structurally deficient viaduct currently located at Clark Street with a structure and associated roadway that would accommodate future local and regional transportation systems and needs in the City of Laramie.

The implementation of the proposed action shall address four needs:

- To **provide a continuous east-west transportation system connection** that will serve corridor traffic movements through the City of Laramie.
- To **provide transportation service, increased capacity, and improved functionality** needed for the future (2032).
- To **improve operational efficiency for bridge, roadway, intersections, and pavement and safety** on the existing transportation system.



- To **provide transportation service** that is **consistent with local** transportation and land use **plans**.

1.1 Planning Considerations

In addition to the fundamental need for replacement of the Clark Street viaduct, systems and project planning considerations also led to the development of this proposed action. These considerations assure that the new viaduct location facilitates the City of Laramie's growth and future transportation demands.

At the state government level, WYDOT has adopted the *Statewide Long-Range Transportation Plan, August 2010*, to complement its mission to provide a safe, high-quality and efficient transportation system. This plan is goal-driven and identifies the need to ensure that the state's transportation investments address the appropriate mix of system preservation, safety, capacity, mobility, and economic development needs.

At the local government level, the Laramie City Council adopted the *Laramie Comprehensive Plan* on August 21, 2007. This Plan is an official document adopting a broad statement of public policies to guide decisions about the physical, social, and economic development of a community. Chapter Eight,



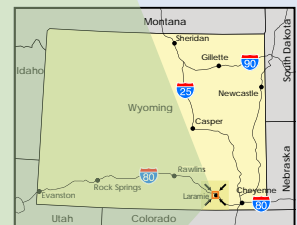
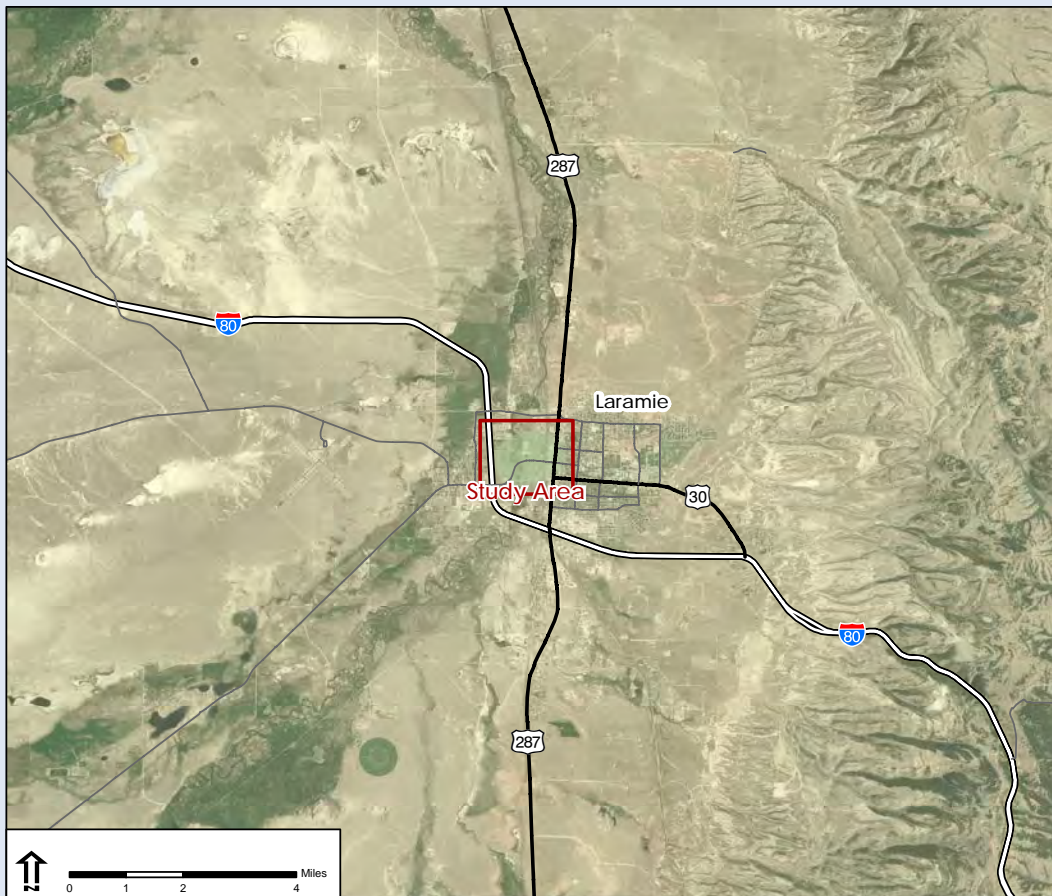
titled Transportation, as summarized (certain text included as presented in the Plan) in the following paragraphs, assists in developing a project that meets the *Statewide Long-Range Transportation Plan, August 2005*, and responds to City of Laramie's transportation system needs.

Chapter Eight of the *Laramie Comprehensive Plan* guides decisions on the surface transportation system formed by a network of highways, thoroughfares, and streets, and decisions regarding the pattern of future thoroughfare (arterial) development and the corresponding infrastructure needed to meet the

mobility needs of the community. Each highway, thoroughfare, or street segment must contribute to the interconnectivity of the network. Without a continuous system, there are unnecessary interruptions altering traffic movement patterns onto street segments that are not designed to carry the associated traffic volume and, thus, become overly congested. Connectivity is a key to providing an efficient, safe, and convenient roadway network for vehicular traffic.

The primary surface transportation system in Laramie is thoroughfares (arterials), including Clark Street and Harney Street. Based on an evaluation of mul-

Figure 1-1: Project Vicinity

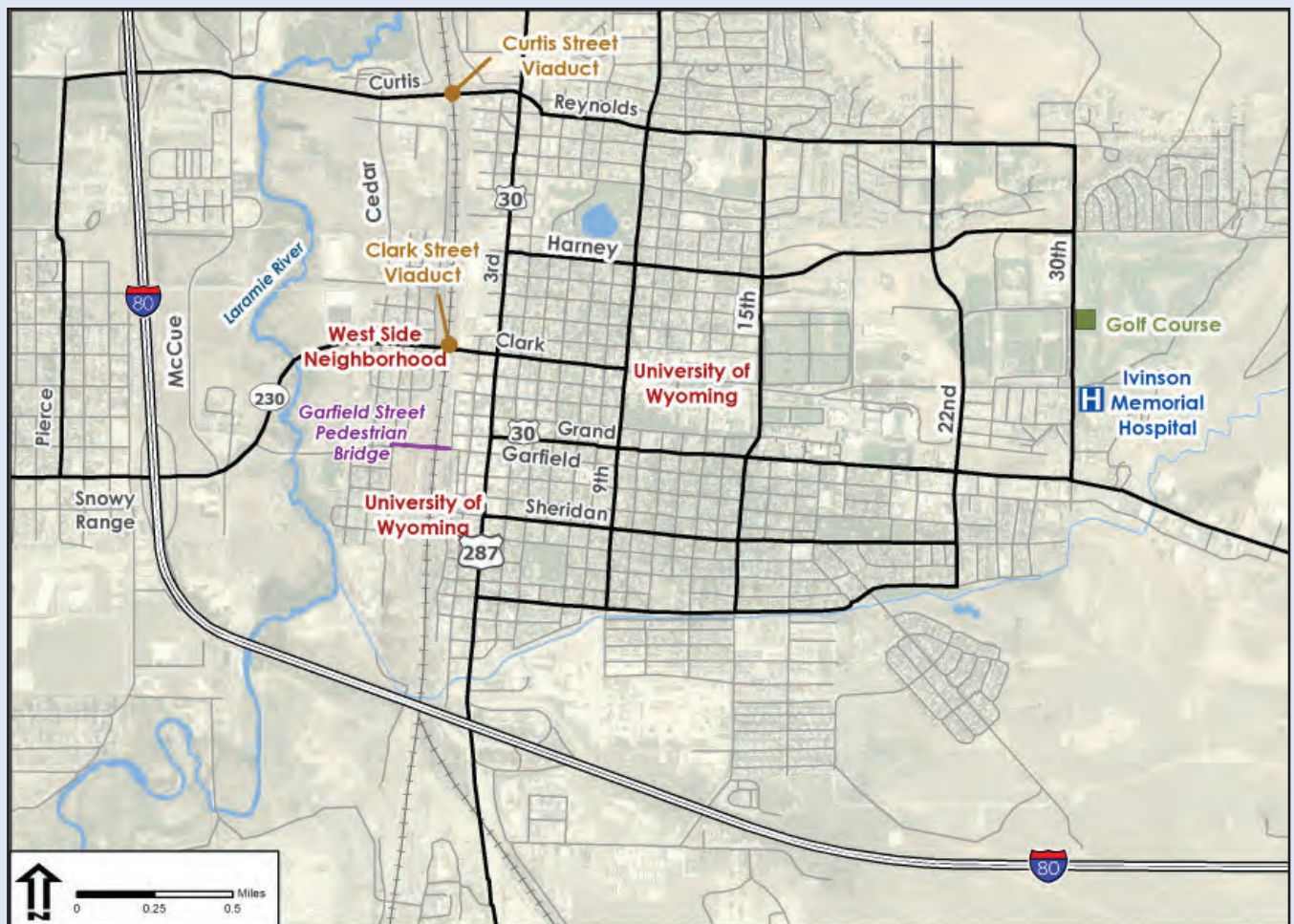


multiple alignment options for reconstruction of the current Clark Street bridge or construction of a new bridge aligned with Harney Street, the *Laramie Comprehensive Plan* concludes that from a thoroughfare planning and traffic continuity perspective, Harney Street is the advisable location for a new bridge. This location would allow a centrally located continuous connection between the east and west sides of Laramie and a continuous cross-town arterial street connection to the east side of Laramie. The Harney Street alignment would provide a centrally located thoroughfare for

cross-town access. Its spacing relevant to the other two east-to-west roadways is also appropriate, per the *Functional Classification* criteria found in *Table 8.1*, of the *Laramie Comprehensive Plan*. The City of Laramie's decision concerning the Harney alignment was based on a 2007 engineering report that evaluated the different alternative alignments at the corridor planning level.

At the corridor planning level, *The Laramie Transportation Study Improvement Plan* (2007 engineering report noted above) evaluated alternative alignments for the replacement of the aging

Figure 1-2: Current Laramie Transportation Network





UPRR Railyard

Clark Street viaduct. All viable options required a satisfactory level of service for the next 20 to 30 years. A technical analysis of each alternative was conducted. The elements included in the analysis were roadway capacity and intersection operations, safety, business access, impacts to historic properties, regional connectivity, and constructability. This plan recommended the construction of a new multi-lane bridge and roadway along a Harney Street alignment, and the recommendation was conditionally approved by the Laramie City Council on August 21, 2007. The engineering report was subsequently finalized in December 2007.

Provide a Centrally Located Continuous East-West Transportation System Connection

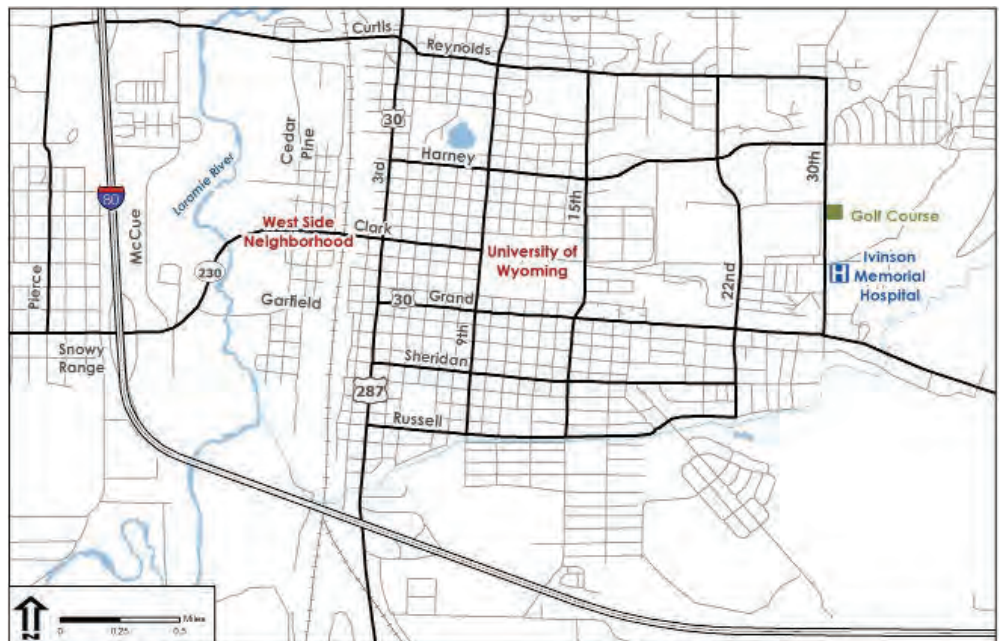
Since the construction of the viaduct in 1963, motorists in Laramie have used the centralized corridor Snowy Range Road (State Highway 230), Clark Street, and Grand Avenue to travel between the west and east sides of Laramie. Although the existing Clark Street viaduct provides an important central connection across the UPRR, the corridor does not provide a direct connection with the west side of Laramie to east side destinations such as Iverson Memorial Hospital and various retail establishments. This central connectivity needs to be improved to accommodate future traffic volumes and provide efficient access across the UPRR to many destinations within Laramie, including downtown Laramie, the University of Wyoming, Iverson Memorial Hospital, shopping opportunities and residential areas on the east side of Laramie.

1.2 Why is this Project Needed?

The proposed action will address needs identified and supported through the system planning and project planning, studies conducted by WYDOT and the City of Laramie.



West Side Neighborhood Major Traffic Flow



The West Side Neighborhood, located between the UPRR tracks and the Laramie River and between Harney street and Russell Street, currently has a direct connection with downtown Laramie via the Clark Street viaduct. The route of travel typically occurs along Cedar Street, Clark Street, and the Clark Street viaduct to 3rd Street. Additionally, the most direct access to downtown Laramie by foot is the Garfield Street pedestrian bridge.

Local streets have historically provided complete access within the West Side Neighborhood and surrounding areas west of the UPRR tracks. Cedar Street and Pine Street have provided north-south roadways within the West Side Neighborhood, with Cedar Street providing a direct connection to Curtis Street to the north and Garfield Street to the south. The proposed action will provide access and connectivity for the West Side Neighborhood with downtown Laramie and areas in east Laramie.

Provide Transportation Service, Increased Capacity, and Improved Functionality

Currently, the two-lane Clark Street viaduct provides a connection between west Laramie and central-downtown Laramie and has limited capacity to meet future transportation needs.

Current traffic movements and volumes have created congestion during peak hours at two key intersections; 3rd Street/Clark Street and 3rd Street/Grand Avenue. These two intersections are so

closely linked that improvements at one intersection would worsen congestion at the other one.

Attempts have been made to correct these congested conditions. Signal timings for both intersections have been optimized. Removal of parking on 3rd Street has been considered an option, but received little public support.

Conditions will worsen as volumes increase in response to population growth and development within Laramie. As a result, an arterial roadway that provides additional capacity as a multi-lane facility is now needed to meet future year transportation needs.

Improve Operational Efficiency for Bridge, Roadway, Intersections, Pavement, and Safety

Clark Street Viaduct (Bridge)

Analysis:

The Clark Street viaduct structure has two 12-foot lanes with 2-foot shoulders resulting in a clear roadway width of 28 feet, a length of 1,275 feet, and an attached sidewalk on the south side. Although the viaduct has undergone several improvements over the past 50-years, the viaduct currently has a reduced inventory load rating due to structural component deterioration.

A technical evaluation conducted in 2007 by WYDOT of the Clark Street viaduct concluded that the bridge should be demolished after the new structure crossing the UPRR is constructed. All structural components of the Clark Street viaduct have experienced



Clark Street Viaduct - East Side Looking West



Clark Street Viaduct - West Side Looking East



deterioration. Many of these structural components have advanced deterioration that, without major rehabilitation or replacement, will rapidly decline to a point where the structure is unsafe.

Specific technical report findings include:

- Approximately 10 percent of the deck surface is patched, chipped, or delaminated. The delaminations are internal separations in the concrete above and below the steel reinforcement that cannot be seen on the surface of the deck. The delamination and chipping lead to the formation of potholes in the bridge deck and eventually will require the deck to be replaced.
- Unsealed cracks exist in the concrete deck allowing water and salts to migrate into the concrete accelerating corrosion of the reinforcing steel.
- Nearly 60 percent of the curb and sidewalk exhibit large chips and extensive delamination also allowing water to seep through the deck and accelerate the steel reinforcement corrosion.
- Nearly 25 percent of the expansion joints on the deck have failed and leak, allowing water to corrode the diaphragms, steel bearings and cross-girders and deteriorate the concrete pier caps.



Clark Street Viaduct Curb with Exposed and Corroded Reinforcing Steel
(Photo: Courtesy of WYDOT)



Chips on Front Side of Curb with Exposed and Corroded Reinforcing Steel



Clark Street Viaduct - Westside (Looking East)



Severe Chipping with Loss of Concrete Corroding Reinforcing Steel between Bearings



Service Road Adjacent to Clark Street Viaduct (Looking West)

- Approximately 20 percent of the paint system along the total length of all girders is no longer providing adequate protection of the steel girder. As a result, the steel girders continue to corrode which reduces the load carrying capacity of the girder and can be detrimental to the life of the cross-girders.



Evidence of Joint Failure Over Pier

- Cracked welds occur at several locations throughout the bridge structure.



Cracked Weld

- Approximately 60 percent of the pier walls exhibit severe chipping, delamination, and exposed and corroded reinforcing steel.



Chips, Delaminations, and Rust Staining on Underside of Deck

The technical report recommended the bridge be demolished for the following reasons:

- The undue risk to public safety associated with the bridge remaining in service after a new structure is erected.
- Ongoing maintenance to address the deteriorating structural components (replace bridge deck, leaking joints, girder repair and painting, major repair or replacement of supports) and improvements required to ensure the structure meets the current and future functional standards (wider bridge roadway width, pedestrian safety railing, bridge traffic railing) will be more frequent and costly.
- The frequent inspections required to monitor the structural integrity of the bridge.

The Clark Street viaduct needs to be replaced with a structure that meets current design criteria and accommodates the future capacity demands and connectivity for the transportation system within the City of Laramie.



*Clark Street Viaduct Pier with Corroded Concrete and Reinforcing Steel
(Photo: Courtesy of WYDOT)*



Falling Paint System with Pack Rust at Top Figure



Service Road Transitioning to Turn Lane (Looking West) Clark Street East of Cedar Street



Laramie River Bridge

Laramie River Bridge Analysis:

The Laramie River Bridge was built in 1977, and there have been no improvements to the structure since its construction. The bridge carries two 12-foot lanes with two 10-foot shoulders resulting in a clear road width of 44 feet. A 7-foot sidewalk runs along the north side of the structure. The bridge is in good condition and can be widened and rehabilitated to meet the needs of the proposed action, if the current roadway/bridge alignment is maintained. However, the bridge may need to be replaced depending on final design requirements.

Roadway Analysis:

The existing Clark Street has two 12-foot continuous opposing direction travel lanes through the study area.

East of 3rd Street, Clark Street is a two-lane collector street that serves a residential area and terminates six blocks east at 9th Street. From 3rd Street west

to the viaduct, Clark Street continues at ground level.

Between 3rd Street and the viaduct, Clark Street has two 12-foot opposing direction travel lanes with 3.5-foot outside shoulders narrowing to 2-foot outside shoulders at the viaduct.

West of the viaduct at ground level, Clark Street continues as two 12-foot opposing direction travel lanes and adjacent single-lane residential service roads. Cedar Street is approached from the west with two 12-foot opposing direction travel lanes, an eastbound right-turn lane, and a westbound merge lane. One hundred seventy-five feet west of the Clark Street/Cedar Street intersection, Clark Street becomes a two-lane arterial with 12-foot travel lanes, 10-foot shoulders, and no sidewalk.

Adjacent single-lane residential service roads parallel eastbound and westbound Clark Street from the UPRR east



Laramie River Bridge (Looking West)

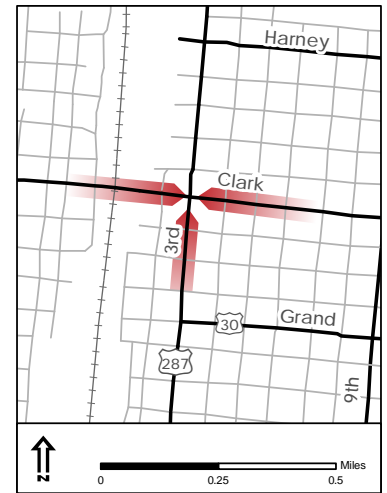
to 3rd Street and west to Cedar Street, providing access to adjacent properties. These service roads include 6.5-foot outside shoulders for 100 feet and attached sidewalks their entire length. The segments of service road that extend beyond the ends of the viaduct are also used as turn lanes.

Intersection Analysis:

The Laramie Transportation Study Improvement Plan concluded that the 3rd Street and Clark Street intersection currently functions at a level of service D which is considered unacceptable by the City of Laramie, WYDOT, and FHWA. This congestion is created by vehicles attempting to use a shared through/left-turn lane, which results in excessive queuing and the inability of all vehicles to move through the intersection in one

cycle of the signal. Eastbound queuing frequently extends west over the viaduct, requiring vehicles to wait through several signal cycles. Northbound left-turn traffic queues as a result of heavy volume; southbound traffic queues due to limited green light time. Westbound traffic queues are due primarily to lack of green signal time; the eastbound approach consumes most of the available Clark Street green signal time. These conditions are expected to persist and worsen as traffic volumes increase.

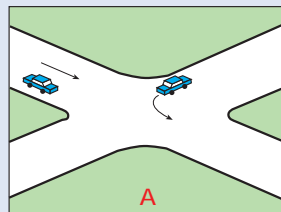
The intersection of 3rd Street and Grand Avenue also experiences lengthy queuing during evening peak hours. This congestion is a result of significant volumes of traffic traveling from Clark Street and southbound 3rd Street onto eastbound Grand Avenue. Lengthy queuing occurs for southbound 3rd Street at Grand Av-



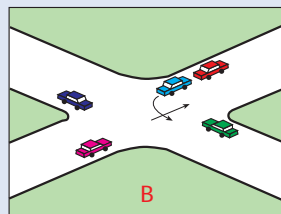
Clark Street and 3rd Street Intersection

Figure 1-3: Level of Service (LOS) Definitions - Intersections

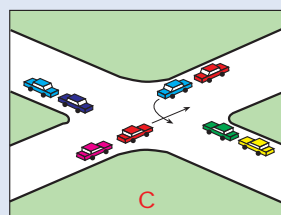
A No vehicle waits longer than one stop or signal indication.



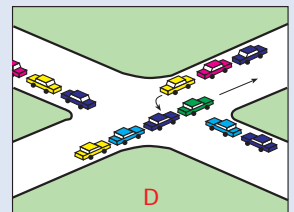
B On a rare occasion, vehicles wait through more than one stop or signal indication.



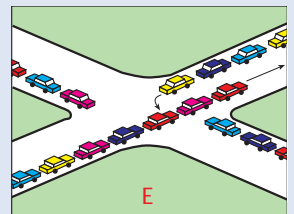
C Intermittently, vehicles wait through more than one stop or signal indication, occasionally backups may develop, traffic flow still stable and acceptable.



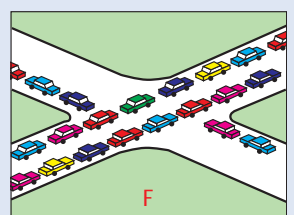
D Delays at intersections may become extensive but enough cycles with lower demand occur to permit periodic clearance, preventing excessive backups.

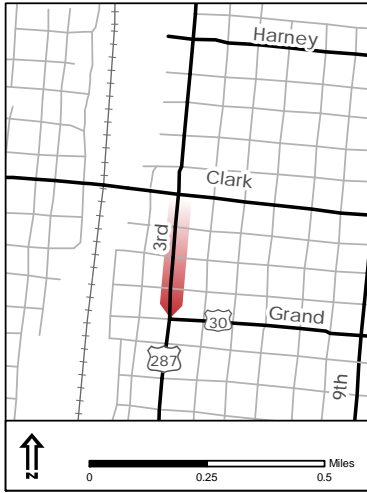


E Very long queues may create lengthy delays.



F Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a "gridlock" condition.





Grand Avenue and 3rd Street Intersection

enue. If the Clark Street and 3rd Street intersection operated more effectively (allowing more continuous through traffic), conditions at the Grand Avenue and 3rd Street intersection would be expected to worsen as result of frequently higher southbound 3rd Street traffic volumes.

Because the intersection of 3rd Street and Clark Street currently operates at an unacceptable LOS D in the evening peak hour and traffic volume forecasts indicate all directions of this intersection will suffer delays and failing LOS, the traffic flow between the east and west central areas of Laramie will worsen, especially during peak hours. This would not only place undue delays on commuting traffic but would hinder emergency service providers, such as ambulances originating from Iverson Memorial Hospital or fire stations located east of 3rd Street and destined for westside Laramie neighborhoods and central Laramie in general.

Pavement Analysis:

Portions of the pavement structure on Clark Street were last rehabilitated in 1988; other sections adjacent to the Clark Street viaduct were last rehabilitated in 1977. Many sections of the existing pavement are rutted, especially at intersections. Overall, the pavement is in good condition; however, even the sections of newer pavement have been in service for over 20 years.

Safety Analysis:

The *Laramie Transportation Study Improvement Plan* identified two 3rd Street segments between Grand Avenue and Clark Street and between Clark Street and Harney Street that experienced the highest crash rates in the City of Laramie from 2003 to 2006. Crash rates for the Grand Avenue to Clark Street segment exceeded statewide averages (based on corresponding functional classification of roadways) by up to four times, while the Clark Street to Harney Street



Clark Street Viaduct - Eastside Looking West

segment exceeded the statewide average by up to 2.5 times the statewide average.

The high traffic volumes along 3rd Street between Harney Street and Grand Avenue contribute to the increased frequency of accidents along these segments.

Provide Transportation Service Consistent with Local Plans

The City of Laramie has adopted the Laramie Comprehensive Plan (2007) that adopts public policies to guide decisions about the physical, social, and economic development of the community. As such, this project needs to address these policies set forth by the City of Laramie and input provided by the City of Laramie during the development process.

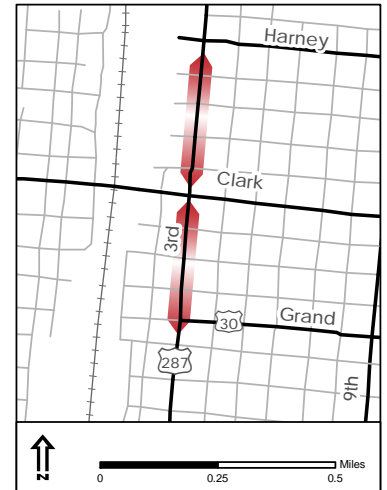
1.3 In Summary

The purpose of establishing a new viaduct and associated roadway over the railroad is to replace the structurally deficient viaduct currently located at Clark Street with a structure and associated roadway that would accommodate future local and regional transportation systems and needs in the City of Laramie.

- Continuous east-west transportation system connection will be needed to serve corridor traffic movements through the City of Laramie.
- Transportation service, increased capacity, and improved functionality will be needed for the future roadway network and land use.

- Operational efficiency for the bridge, roadway, and intersections, and pavement and safety on the existing transportation system will need to be improved.
- Transportation service that is consistent with local transportation and land use plans.

These needs and resultant purpose of the proposed project guided the range of alternatives identified for further evaluation in Chapter 2.0 Alternative Analysis.



High Traffic Volumes/Crash Rates along 3rd Street





Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT

Chapter 2: Alternatives Analysis

As described in Chapter 1 (Purpose and Need for Action), adopted plans and studies have concluded that the Clark Street viaduct that crosses the UPRR should be replaced with a new viaduct located at a Harney Street crossing north of the existing crossing.

A range of alternatives/options was developed that would best meet the purpose and need for the proposed action. This range of alternatives is also considered the reasonable range of alternatives under the National Environmental Policy Act (NEPA). Screening of the alternatives took into account the extent to which each alternative met the purpose and need, the design criteria, environmental impacts, the context and constraints within the study area, as well as public and agency comments and concerns.

Screening Process

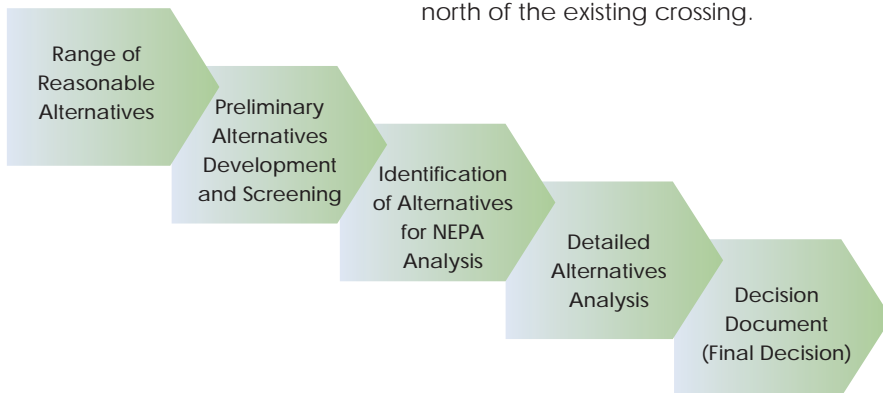
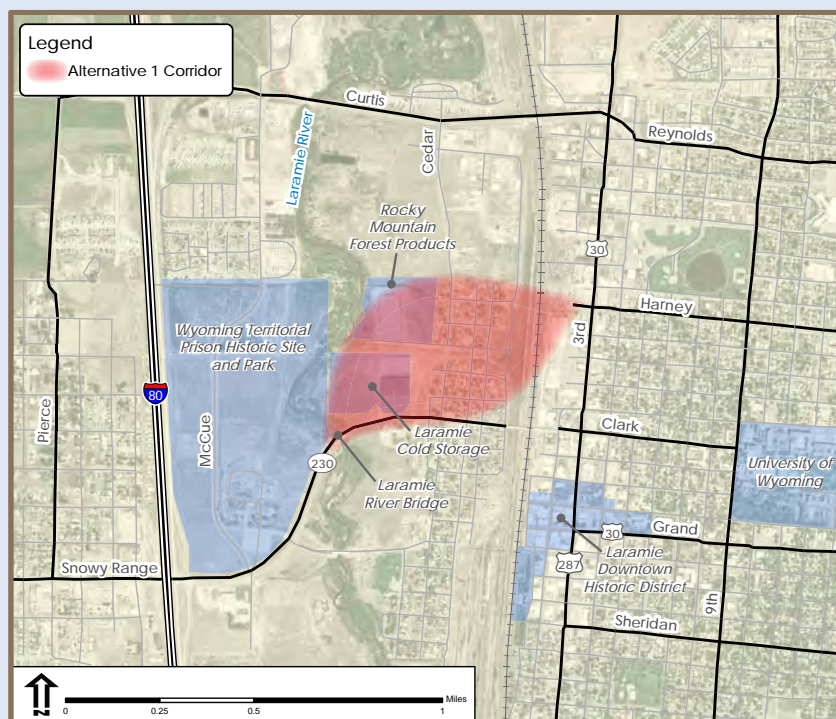


Figure 2-1: Alternative 1 Corridor



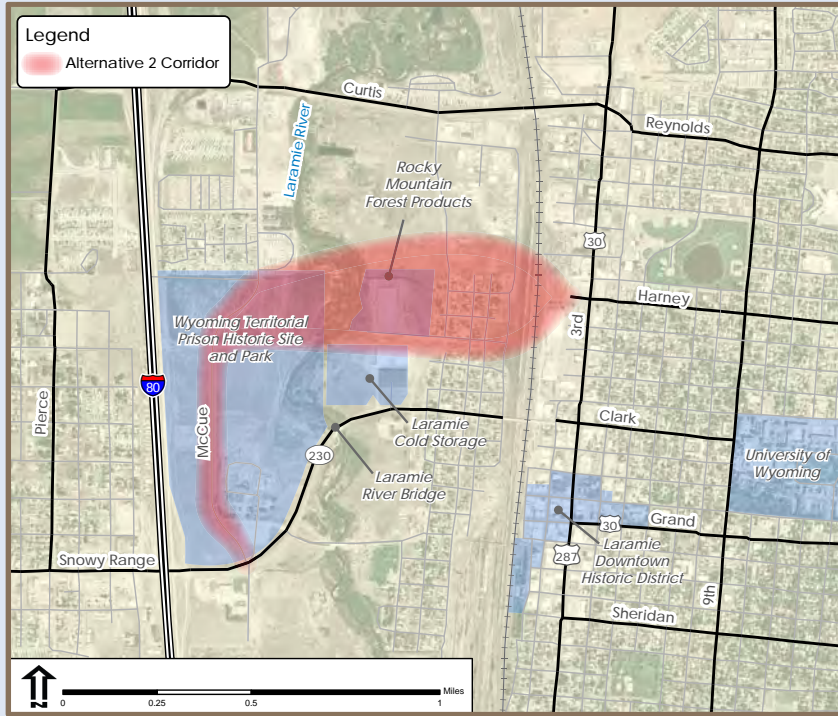
2.1 What Alternatives Were Initially Considered?

Two general alternative corridors were initially considered that would extend the existing Harney Street roadway from 3rd Street crossing the UPRR and joining the existing State Highway 230 (SH 230), also known as Snowy Range Road. The new viaduct and roadway would become Snowy Range Road/SH 230, Clark Street would become a local street, and SH 230 would originate at 3rd Street and Harney Street.

The Alternative 1 (Figure 2-1) corridor would join SH 230 east of the existing Laramie River crossing, thus utilizing the existing Laramie River bridge. The Alternative 2 (Figure 2-2) corridor would join SH 230 west of the existing crossing, utilizing the McCue Street connection but requiring the construction of a new



Figure 2-2: Alternative 2 Corridor



Laramie River bridge. All alternatives/options would extend Harney Street, as a State Highway (SH 230), from 3rd Street west to the present SH 230.

Options within each alternative were developed to include reasonable variations in roadway alignment and viaduct skew. All options assume removal of the Clark Street viaduct. Clark Street would no longer serve as a connector and would terminate at the east side and west side of the UPRR right-of-way. All options would include those design and construction elements needed to 1) provide for a north-south street system to serve the West Side Neighborhood, and 2) provide for a pedestrian system to serve the West Side Neighborhood. Each of the north-south streets, Cedar Street, Pine Street, Hodgeman Street, and Railroad Street would be evaluated during project design to serve as a continuous street system and/or a continuous pedestrian system.

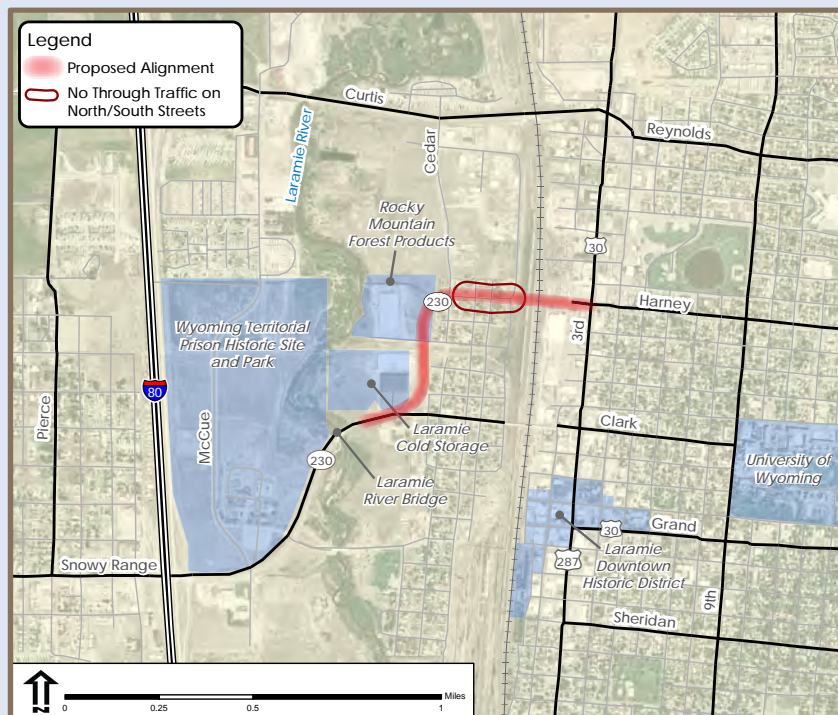
The following sections describe those options identified for initial evaluation and screening.

Alternative 1 Options

Option 1A

This option (**Figure 2-3**) would extend from 3rd Street west over the UPRR, connect to Harney Street for 0.2 mile, and then on new alignment to the Rocky Mountain Forest Products facility. The option would continue along the east side of the Laramie Cold Storage facility directly south and join the existing SH 230 alignment west of Cedar Street. The total length of this option would be 0.9 mile.

Figure 2-3: Alternative 1 - Option 1A



Option 1B

This option (Figure 2-4) addresses the alternative identified in the 2007 *Laramie Transportation Study Improvement Plan*. The option would extend from 3rd Street west across the UPRR connecting to Harney Street for 0.2 mile and then on new alignment south along the east side of the Rocky Mountain Forest Products facility. The extension would then run west along the abandoned Laramie, Hahn’s Peak & Pacific Railroad grade between the Rocky Mountain Forest Products facility and the Laramie Cold Storage facility and south along the west side of the Laramie Cold Storage facility to join with the existing SH 230 alignment immediately north of the existing Laramie River bridge. This option would require rebuilding the Laramie River bridge to accommodate the skewed roadway approach, extra lanes, and widening where the new roadway would join SH 230. The total length of this option would be 1.0 mile.

Option 1C

This option (Figure 2-5) would extend from 3rd Street west across the UPRR using a bridge structure skewed to the southwest and through the vacant area between Gibbon Street and Bradley Street, southwest to the abandoned Laramie, Hahn’s Peak & Pacific Railroad grade, and then on new alignment to the Rocky Mountain Forest Products facility. This option would then continue southwest along the southeast side of the Laramie Cold Storage facility to join existing SH 230 west of Cedar Street. The total length of this option would be 0.76 mile.

Figure 2-4: Alternative 1 - Option 1B

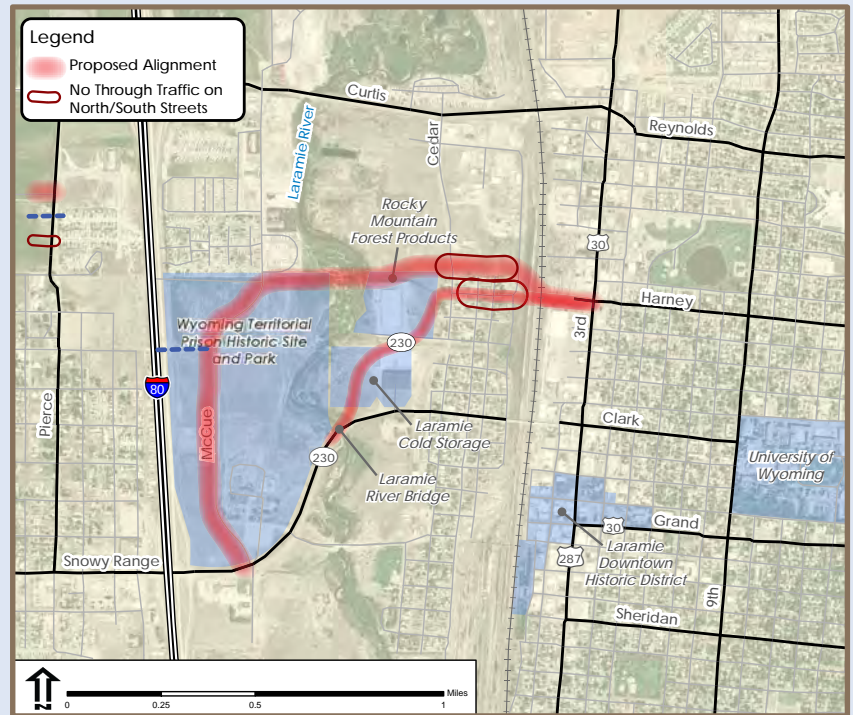


Figure 2-5: Alternative 1 - Option 1C

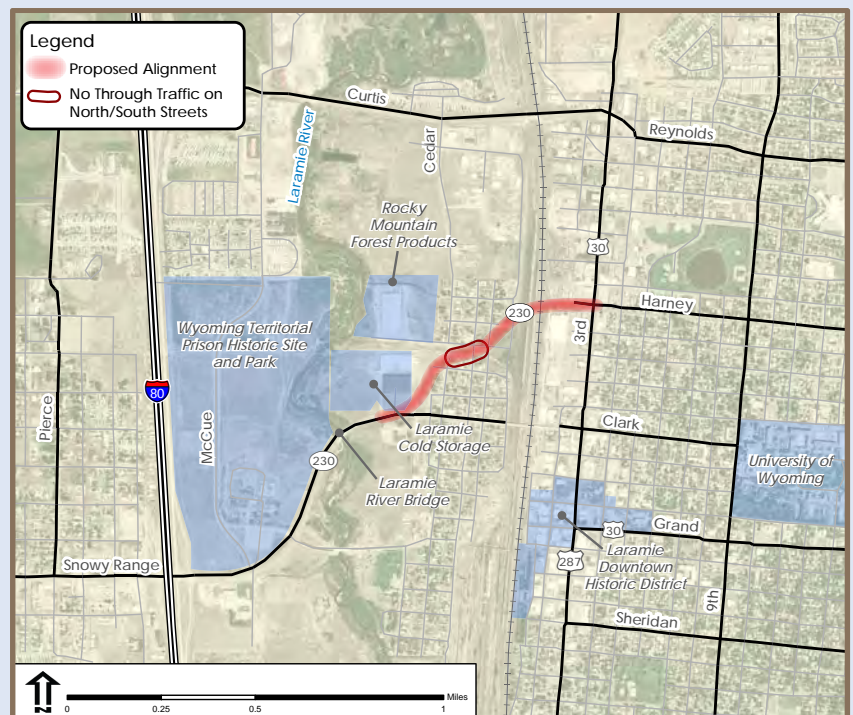
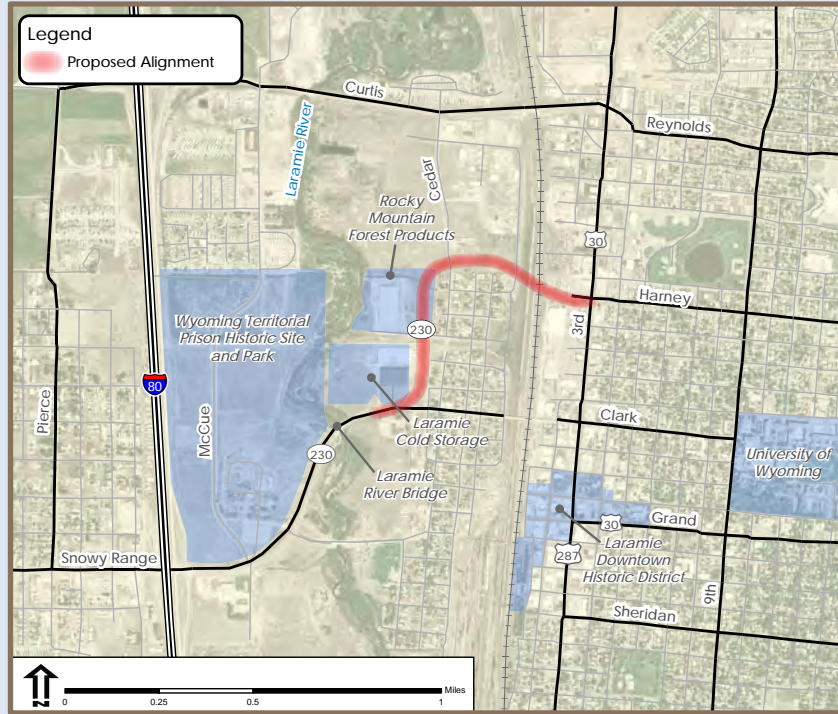




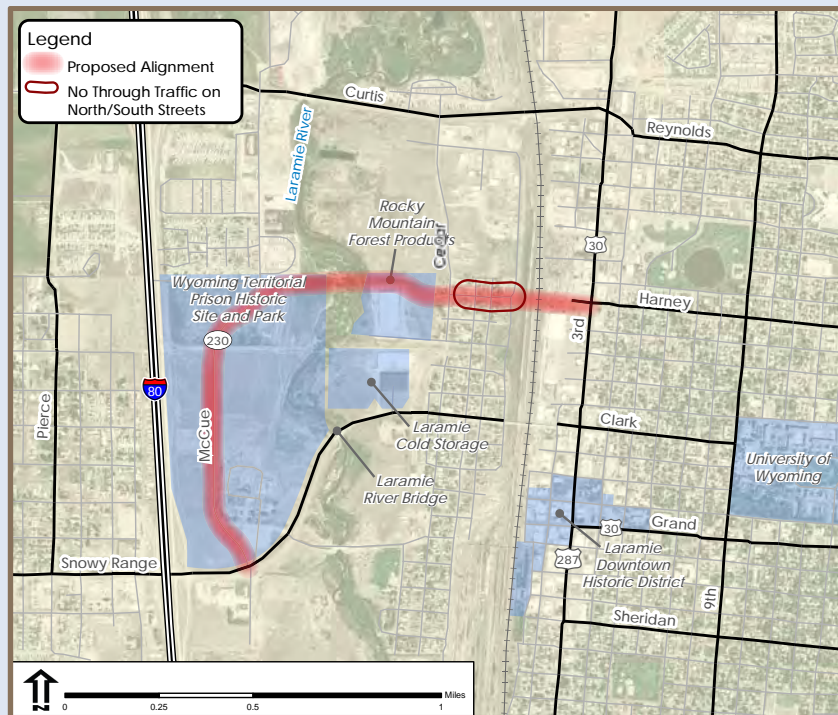
Figure 2-6: Alternative 1 - Option 1D



Addition of Option 1D

In response to public comment, an option was developed to minimize impacts to community cohesion. This option (**Figure 2-6**) would extend from 3rd Street west across the UPRR, using a bridge structure skewed to the northwest and through the vacant area north of the residential area. It would continue along the east side of the Rocky Mountain Forest Products facility and the Laramie Cold Storage facility directly south and join existing SH 230 alignment west of Cedar Street. The total length of this option would be 1.0 mile.

Figure 2-7: Alternative 2 - Option 2A



Alternative 2 Options

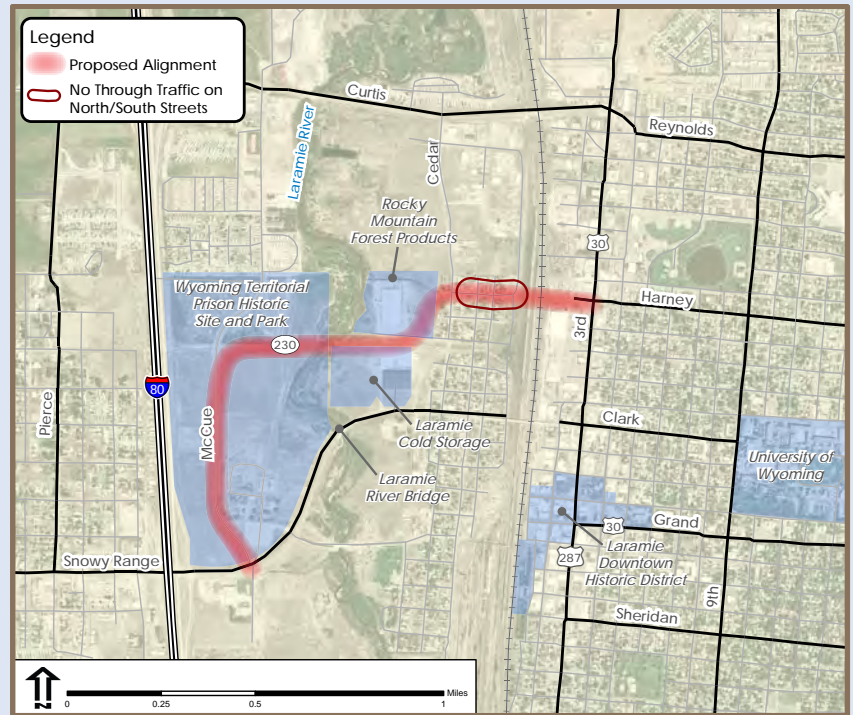
Option 2A

This option (**Figure 2-7**) would extend from 3rd Street west across the UPRR connecting to Harney Street for 0.2 mile and then on new alignment, along the north side of the Rocky Mountain Forest Products facility. This option would continue across the Laramie River to McCue Street where it would continue south on McCue Street to the existing SH 230 alignment south of the Wyoming Territorial Prison Historic Site and Park. The total length of this option would be 1.8 miles.

Option 2B

This option (Figure 2-8) would extend from 3rd Street west across the UPRR connecting to Harney Street for 0.2 mile and then on new alignment west after Harney Street to the southeast of the Rocky Mountain Forest Products facility. It would then connect with the abandoned Laramie, Hahn’s Peak & Pacific Railroad grade, and continue west across the Laramie River to McCue Street where it would continue south on McCue Street to join existing SH 230 alignment south of the Wyoming Territorial Prison Historic Site and Park. The total length of this option would be 1.8 miles.

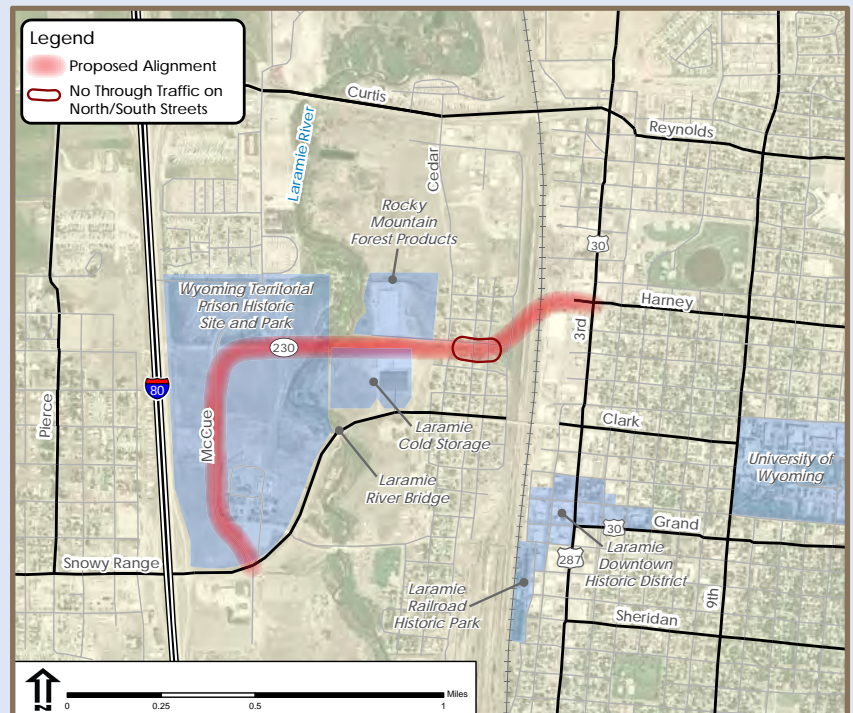
Figure 2-8: Alternative 2 - Option 2B



Option 2C

This option (Figure 2-9) would extend from 3rd Street west across the UPRR using a bridge structure skewed to the southwest and through the vacant area between Gibbon Street and Bradley Street, and then southwest to the abandoned Laramie, Hahn’s Peak & Pacific Railroad grade. The alignment would continue west across the Laramie River to McCue Street where it would continue south on McCue Street to the existing SH 230 alignment south of the Wyoming Territorial Prison Historic Site and Park. The total length of this option would be 1.7 miles.

Figure 2-9: Alternative 2 - Option 2C





Option 2D

This option (Figure 2-10) would extend from 3rd Street west across the UPRR using a bridge structure skewed to the northwest and through the vacant area north of the residential area and the Rocky Mountain Forest Products facility. It would continue the alignment west across the Laramie River to McCue Street where it would continue south on joining the existing SH 230 alignment south of the Wyoming Territorial Prison Historic Site and Park. The total length of this option would be 1.7 miles.

Early Screening Process

The two corridor alternatives and their respective options were evaluated to determine which option(s) should be carried forward for further evaluation using criteria based on the purpose and

need for the proposed action. These criteria included:

- Provide a continuous east-west arterial to accommodate future transportation needs in the City of Laramie.
- Provide a transportation service, increased capacity, and improved functionality for the proposed action roadway network and land use.
- Improve operational efficiency for bridge, roadway, and intersections, and pavements and safety.
- Provide transportation service that is consistent with local transportation and land use plans.

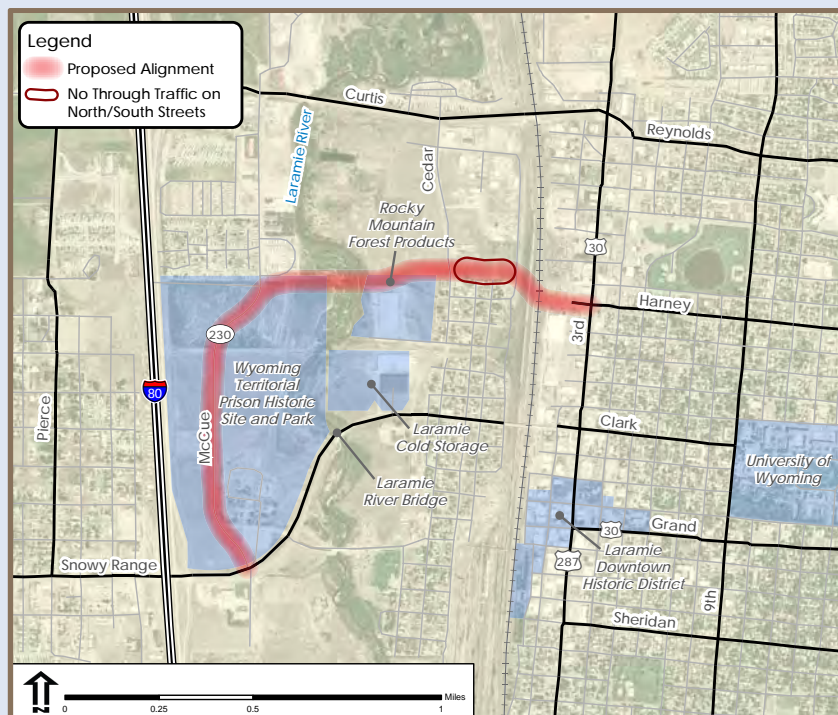
Both corridors and their respective options were presented to the public in February 2009. The intent of the public outreach was to request comments, concerns, and ideas from the public on the range of options. Many responses from the public indicated a strong desire to preserve community cohesion within the West Side Neighborhood.

Elimination of Alternative 2

Both corridors (Alternative 1 and Alternative 2) and the respective options met the purpose and need for the project. However, in comparison with Alternative 1, Alternative 2 would:

1. Result in significantly greater travel distances – travel distances for Alternative 1 options range from 0.8 to 1.0 mile while travel distances for Alternative 2 options range from 1.7 to 1.8 miles, approximately twice the distance of the Alternative 1 options.

Figure 2-10: Alternative 2 - Option 2D



2. Increase both the initial construction cost and the long-term maintenance cost based on the additional 0.7 to 1.0 mile of roadway.
3. Require a new bridge structure over the Laramie River and increase wetland impacts associated with the river.
4. Result in direct impacts to and Section 4(f) use of the nationally significant Wyoming Territorial Prison State Historic Site and Park by dividing the north side with a new road and increasing traffic north and west on McCue Street and on the new road.

As a result, all Alternative 2 options were eliminated from further consideration.

Elimination of Option 1B

Upon further evaluation of the options, it was concluded that Options 1A and 1B alignments were identical from 3rd Street west to a point between the Rocky Mountain Forest Products facility and the Laramie Cold Storage facility. From that point to the connection with existing SH 230 Option 1B is approximately 800 feet longer and would require rebuilding the Laramie River Bridge to accommodate the skewed roadway approach where the new roadway would join SH 230. Option 1B was therefore eliminated.

2.2 What Alternatives Were Advanced for Detailed Environmental Analysis?

As a result of the screening process and input from the public and agencies, the No-Build Alternative (described below)

and three build alternatives, Alternative 1 Options 1A, 1C, and 1D, were advanced for detailed analysis in the Environmental Assessment. In the remainder of this report, the build alternatives are referred to as Alternatives 1A, 1C, and 1D.

No-Build Alternative

If none of the Build Alternatives were selected, there would be no viaduct crossing the UPRR along a Harney Street alignment. The existing Clark Street viaduct would remain in place. The only improvements associated with the No-Build Alternative would include the required repairs and maintenance of the Clark Street Viaduct as it continues to deteriorate with age. The No-Build Alternative:

- Would not provide a continuous direct east-west arterial to accommodate future transportation needs in the City of Laramie.
- Would not provide a transportation service, increased capacity, and improved functionality for the proposed action roadway network and land use.





- Would not provide improved operational efficiency for bridge, roadway, and intersections, or provide improved pavement and safety.
- Would not provide transportation service that is consistent with local transportation and land use plans.

For these reasons, the No-Build Alternative does not meet the purpose and need for the proposed action.

Components Common to All Build Alternatives

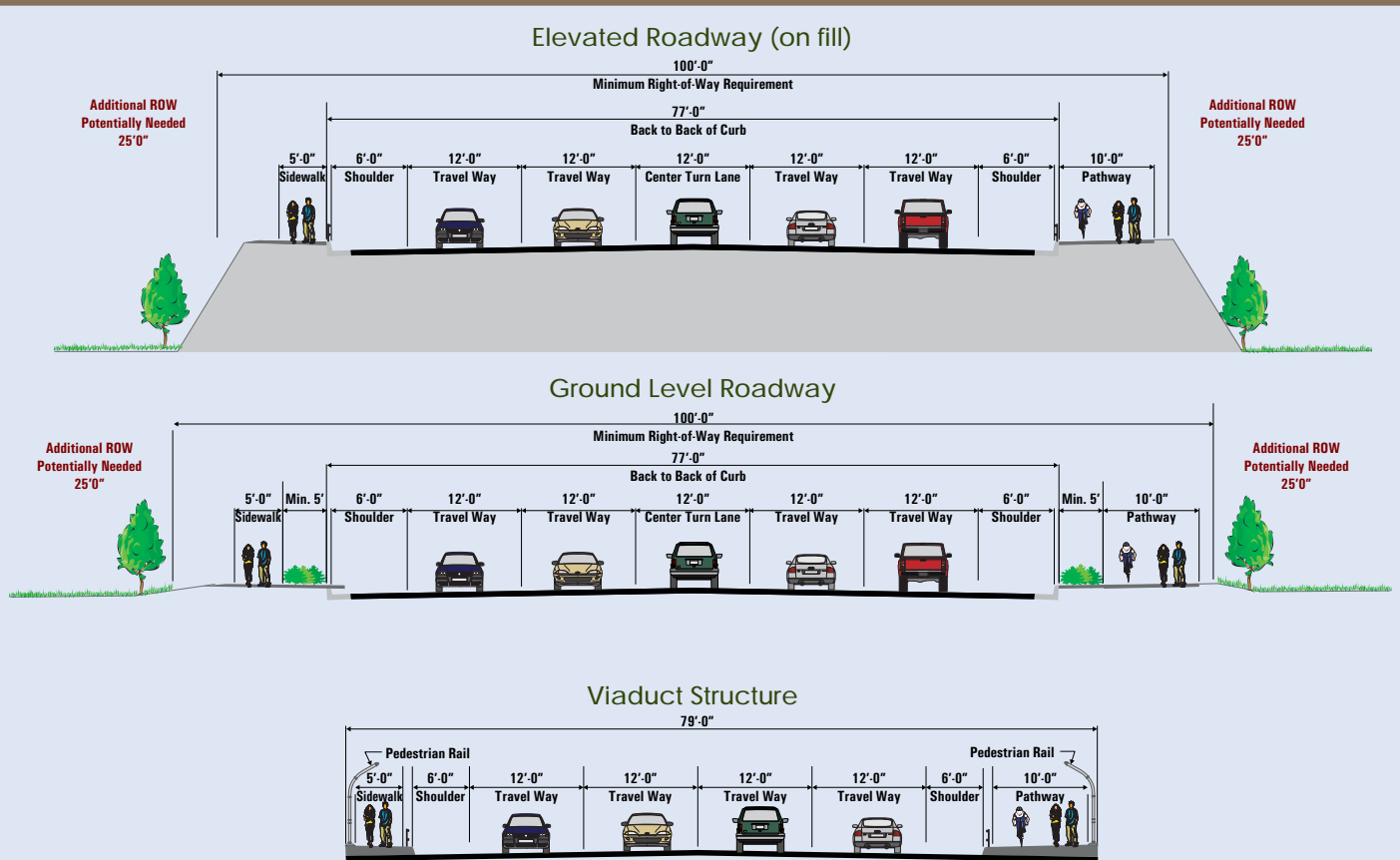
All build alternatives would include the same typical sections for bridge approaches, ground level roadway, and viaduct structure (Figure 2-11). Also, for

all the build alternatives, the eastern terminus of SH 230 would be at 3rd Street and Harney Street.

Harney Street Viaduct (Bridge)

All build alternatives would include a viaduct structure crossing the UPRR tracks, and a roadway, as a State Highway, extending from an improved intersection with 3rd Street joining the existing alignment or SH 230 east of the Laramie River bridge. The viaduct structure would include two 12-foot westbound lanes, two 12-foot eastbound lanes, two 6-foot shoulders, a 10-foot bicycle/pedestrian pathway on one side, and a 5-foot sidewalk (pedestrian) on the other side. The bicycle/pedes-

Figure 2-11: Typical Sections for All Alternatives



trian pathway and the sidewalk would be separated from the travel lanes by a metal bridge rail. Elevated roadways gradually sloping to ground level would extend east and west from the viaduct structure. A retaining wall would be required along the south side of the west approach to the viaduct.

Clark Street Viaduct (Bridge)

The existing Clark Street viaduct would be demolished. Replacement, rather than rehabilitation, is required because of the age, condition, reduced load rating, and narrow bridge roadway width.

Laramie River Bridge

The Laramie River Bridge structure is in good condition and it can be widened and rehabilitated, to meet the needs of the proposed action. The widened structure would provide four 12-foot travel lanes, 6-foot shoulders, and a 10-foot sidewalk on one side of the structure.

Roadway East and West of New Viaduct

Approaches extending east and west from the viaduct structure would include two 12-foot westbound lanes, two 12-foot eastbound lanes, one 12-foot center turn lane, two 6-foot shoulders, a 10-foot bicycle/pedestrian pathway on one side, and a 5-foot sidewalk (pedestrian) on the other side. The bicycle/pedestrian pathway and the sidewalk would be separated from the travel lanes by a curb and gutter.

Once at ground level, the roadway would have two 12-foot westbound

lanes, two 12-foot eastbound lanes, one 12-foot center turn lane, two 6-foot shoulders, a 10-foot bicycle/pedestrian pathway on one side, and a 5-foot sidewalk (pedestrian) on the other side. However, the bicycle/pedestrian pathway and the sidewalk would be separated from the travel lanes by a vegetated median of varying width.

Clark Street

The elevated portion of Clark Street east and west of the UPRR would be reconstructed at grade to City of Laramie standards and would provide access to existing adjacent commercial and residential properties. The reconstructed Clark Street would match existing Clark Street at both the east and west ends of the existing Clark Street viaduct, but would not cross the UPRR. Clark Street would be designated as a local street.

Intersections

3rd Street and Harney Street

The proposed action would upgrade the intersection at 3rd Street and Harney Street to serve design year traffic volumes and turning movements in all four directions of travel.

SH 230 and Cedar Street

The proposed action would establish a signalized two-lane intersection at SH 230 and Cedar Street to accommodate approaching north and south Cedar Street traffic onto the relatively high-volume SH 230. The intersection would also provide a north-south connection west of the railroad tracks. This design would



*Clark Street Viaduct Pier with Corroded Concrete and Reinforcing Steel
(Photo: Courtesy of WYDOT)*



Harney Street Looking East From Cedar Street

accommodate the anticipated volumes for 2032.

Pavement

A new pavement structure would be constructed using a 20-year minimum design life.

Components Specific to Each Build Alternative

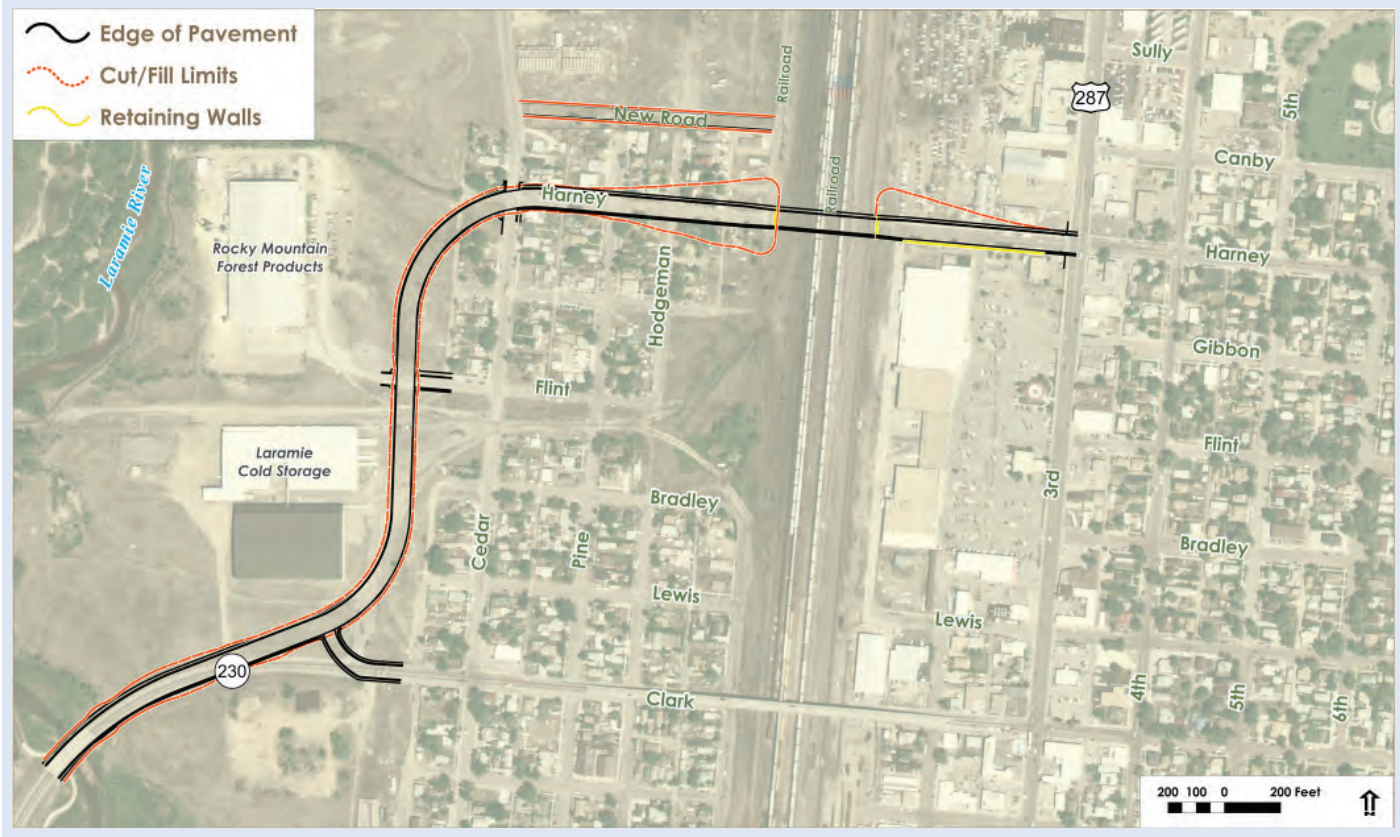
Alternative 1A

The viaduct structure for this alternative (Figure 2-12) would be aligned with the existing Harney Street. The approaches would reach ground level west of 3rd Street and west of Pine Street. The Harney Street approach would be recon-

structed from Railroad Street to Cedar Street. West of Cedar Street, the new roadway alignment would extend to the Rocky Mountain Forest Products facility, then along the east side of the Laramie Cold Storage facility directly south, and end as it ties into the existing SH 230 east of the Laramie River Bridge.

Access to adjacent West Side Neighborhood streets would be provided at Cedar Street, Flint Street, and Clark Street. All intersections would be four-way stops with the exception of SH 230 and Cedar Street which would be signalized. The Clark Street intersection with Harney Street would be a non-signalized "T" intersection, because Clark Street would not extend west of the intersection.

Figure 2-12: Alternative 1A



Since the elevated structure would maintain a gradual slope to a point between Pine Street and Cedar Street, this alternative would eliminate two of the north-south connections that currently exist for the residents of the northernmost West Side Neighborhood. With this alternative, these residences would need to use Cedar Street to maintain this connection.

West Side Neighborhood residences north of Harney Street and along Pine Street, Hodgeman Street, and Railroad Street also currently have access to Cedar Street via Harney Street. With Alternative 1A, this access would be eliminated. To replace the existing access to Cedar Street, a new east-west

local road in alignment with Canby Street would be constructed by WYDOT from Cedar Street to Railroad Street.

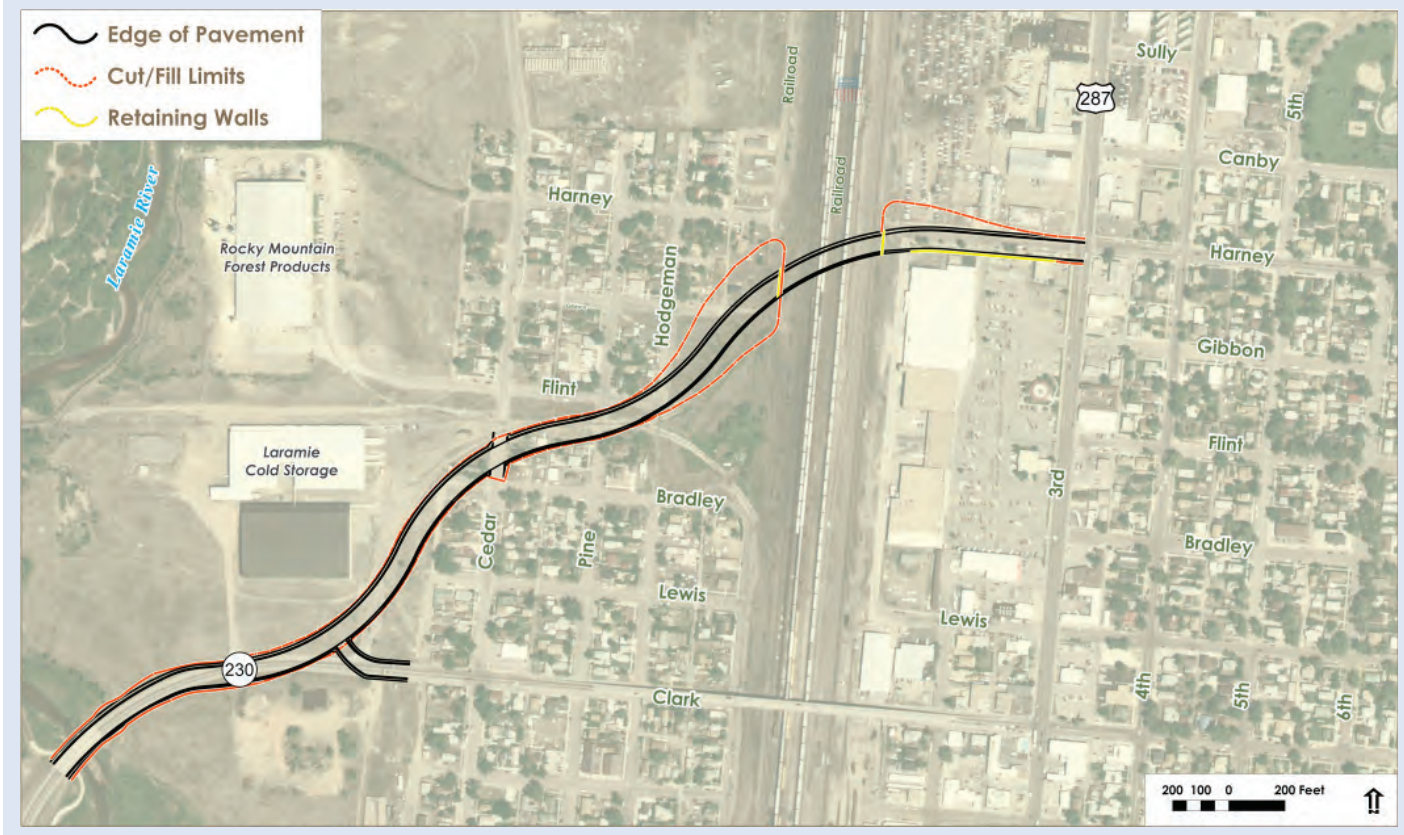
Alternative 1C

The viaduct structure for this alternative (Figure 2-13) would be skewed to the southwest creating an elevated roadway that would reach ground level west of 3rd Street and near Flint Street. The roadway would then follow an existing Laramie, Hahn's Peak & Pacific Railroad grade and spur (Wye) where it would begin to pass east of the Laramie Cold Storage facility and join with the existing alignment of SH 230 east of the Laramie River Bridge.



Laramie, Hahn's Peak & Pacific Railroad Wye eligible to the National Register of Historic Places

Figure 2-13: Alternative 1C





North of West Side Neighborhood - Midwest/Standard Oil Refinery - not eligible to the National Register of Historic Places

Access to adjacent West Side Neighborhood streets would be provided at Cedar Street between Bradley Street and Flint Street and at Clark Street. The direct north-south connection along Pine Street would be eliminated as well as the existing intersection of Hodgeman Street and Railroad Street. The Cedar Street intersection with SH 230 would be signalized and accommodate all traffic movements. The Clark Street intersection with SH 230 would be a non-signalized "T" intersection because Clark Street would not be extended west of the intersection. Direct access to Flint Street would not be provided with this alternative.

Alternative 1D

The viaduct structure for this alternative (Figure 2-14) would be skewed to the northwest creating an elevated roadway that would reach ground level west of 3rd Street north of the West Side Neighborhood near Pine Street. West of Cedar Street, the new roadway alignment would extend to the Rocky Mountain Forest Products facility, then along the east side of the Laramie Cold Storage facility directly south, and ends as it joins with the existing alignment of SH 230 east of the Laramie River Bridge.

Access to the West Side Neighborhood streets would be provided at Cedar Street north of the neighborhood, at Flint

Figure 2-14: Alternative 1D



Street west of the neighborhood, and at Clark Street. The SH 230 and Cedar Street intersection would be signalized and accommodate all traffic movements. The Clark Street intersection with SH 230 would be a non-signalized "T" intersection because Clark Street would not be extended west of the intersection.

As presented earlier in this chapter, a No-Build Alternative is fully assessed in Chapter 3, and is used as a baseline comparison for the further analysis of all three the build alternatives. The three build alternatives presented as Alternative 1A, Alternative 1C, and Alternative 1D best meet the purpose and need and were selected for detailed analysis in Chapter 3 of this EA.



Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT

Chapter 3: Affected Environment, Impacts, And Mitigation

Environmental Resources

- Land Use and Zoning
- Social Resources
- Environmental Justice
- Economic
- Transportation and Traffic
- Right-of-Way
- Air Quality
- Noise
- Water Quality and Floodplains
- Wetlands and Waters of the U.S.
- Threatened and Endangered Species
- Wildlife and Aquatics
- Farmlands
- Noxious Weeds
- Visual Quality
- Cultural Resources
- Hazardous Materials
- Parks and Recreation

The National Environmental Policy Act of 1969 (NEPA) requires that for any action undertaken by a federal agency where the significance of the environmental impacts are unknown, information relevant to determining whether or not a significant impact will occur must be analyzed to assist in the decision making process.

The Study Area (**Figure 3-1**) was used to evaluate direct and indirect impacts for most resources and a more specific area of potential effect (APE) was established for cultural resources. A larger, regional Study Area was used to evaluate traffic, land use, and regional air quality issues.

Preliminary studies, as well as public and agency scoping, aided in the identification of resources that would potentially be affected by the project. Governmental agencies that were notified and involved in the scoping process include:

- U.S. Army Corps of Engineers (USACE)
- Natural Resources Conservation Service
- Wyoming State Historic Preservation Office
- Albany County Commission
- U.S. Fish and Wildlife Service
- City of Laramie

- Wyoming Department of Environmental Quality (WYDEQ)
- Wyoming Game & Fish Department
- University of Wyoming

All resources were evaluated in detail by qualified biologists, historians, and planners to verify presence or absence of resources, assess potential impacts and, as necessary, identify mitigation measures to minimize any impacts.

Subsequent sections of this chapter describe the existing conditions of an environmental resource, impacts associated with the No-Build Alternative (used as a baseline comparison for environmental analysis purposes) and three Build Alternatives, and the mitigation measures proposed to offset the unavoidable impacts. Based on the findings presented in this chapter, Alternative 1D has been identified as the Preferred Alternative.

Two different types of impacts are discussed in this chapter:

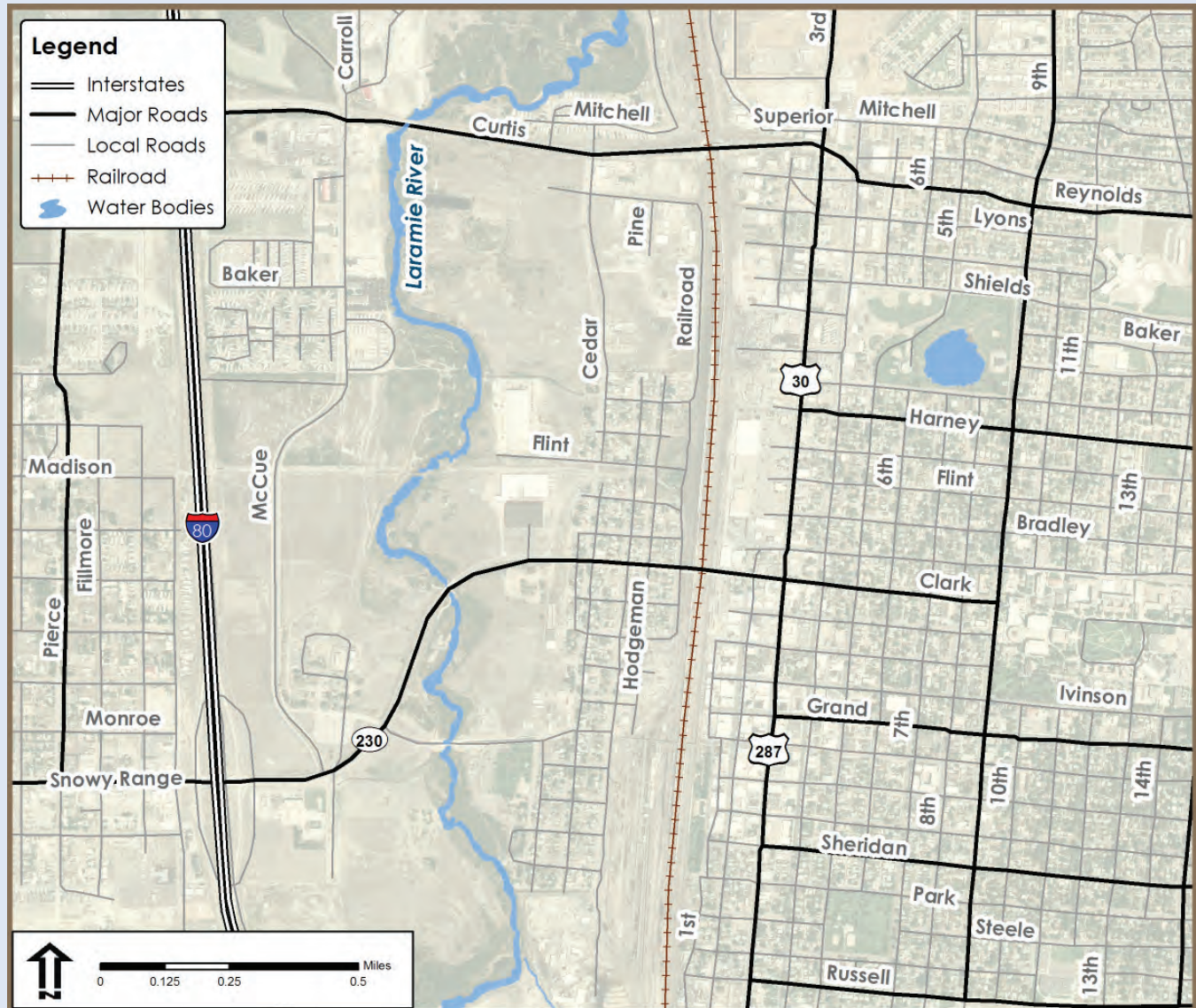
- Direct impacts are those that occur at the same time and in the same place as the proposed action. For example, direct impacts can include filling a wetland during construction or acquiring a house so a Build Alternative can be constructed.



- Indirect impacts occur later in time or distant from the proposed action. Examples include the shading of vegetation from a new bridge that changes the composition of plants over time, or a new road that attracts development to an area.
- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.

The Council on Environmental Quality has definitions of mitigation. These include:

Figure 3-1: Harney Street Viaduct Study Area



- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

For a summary of impacts by alternative see **Table 3-22** at the end of this chapter.

3.1 Resources Dismissed from Further Study

In some cases, resources do not exist in the Study Area or will not be directly or indirectly impacted by any of the proposed Build Alternatives. These resources are addressed below.

Farmlands

The Study Area falls entirely within an urbanized area and therefore an assessment of impacts to farmlands is not necessary.

Noxious Weeds

Areas within the Study Area where disturbance would occur are entirely developed and consistently disturbed. Improvements related to the Build Alternatives do not include significant areas of landscaping and therefore the project would not be expected to contribute to the spread of noxious weeds.

Wildlife and Aquatic Resources

The Study Area is located within an urbanized area predominantly consisting of industrial and residential land uses. Natural habitat is limited riparian

and upland areas associated with the Laramie River. These areas provide potential habitat for the federally-listed threatened Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) which is discussed in the Threatened and Endangered Species section of this chapter.

The Build Alternatives would not result in significant water depletion of the Platte River system and so no impacts to aquatic resources are expected. The Laramie River Bridge could be widened; however, this would be determined during the design phase. Widening of the bridge would permanently impact riparian willows, shrubs, and grasses adjacent to the bridge. Ground disturbing activities have the potential to temporarily increase turbidity and sedimentation within the Laramie River. These impacts would be both minor and temporary in nature and therefore are not expected to affect aquatic resources.

3.2 Resources Evaluated

3.3 Land Use and Zoning

The following discussion of existing and future land use is based on information gathered from the *Laramie Comprehensive Plan*, Geographic Information System data (from the City of Laramie), and coordination with the City of Laramie Planning Department.

Existing Land Use and Zoning

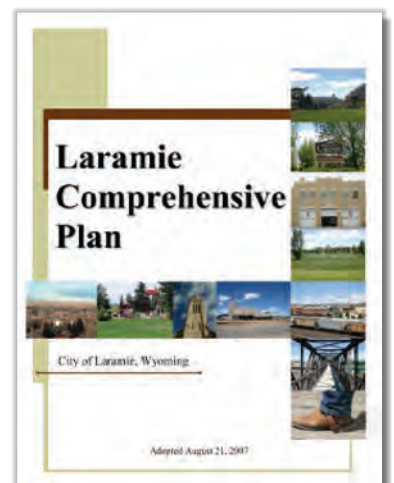
According to the *Laramie Comprehensive Plan*, land within the Study Area is zoned as residential, industrial, business, open zone, or commercial. **Figure 3-2**



Laramie River Bridge upstream looking west.



Laramie River Bridge downstream.





illustrates the zoning designations in the Study Area.

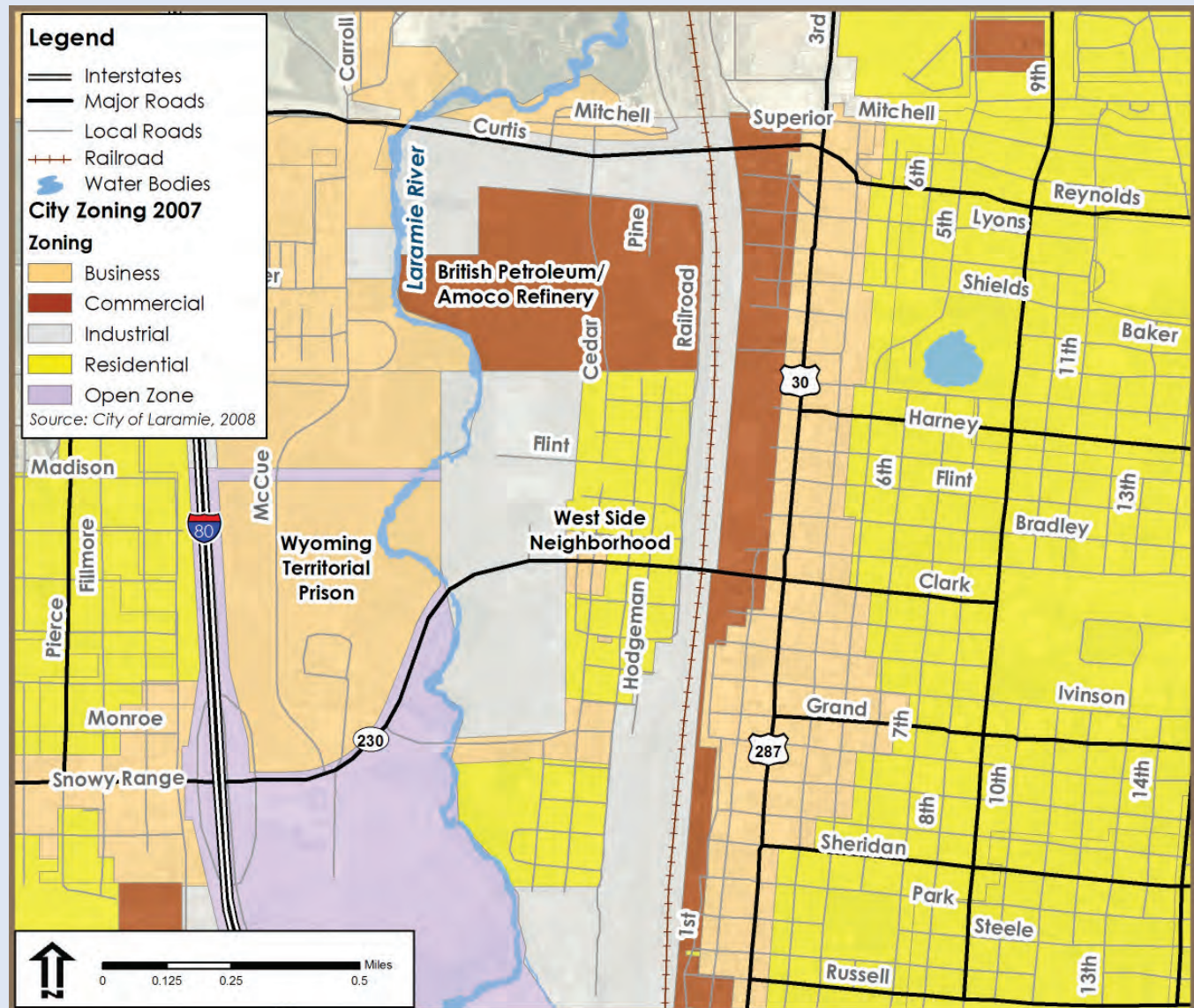
Land uses within the Study Area consist of residential subdivisions (with mostly older homes), neighborhood commercial businesses, parks and open space, and industrial (railroad-related or storage-related) land uses.

A British Petroleum/Amoco property is located in the north-central part of the

Study Area. The Standard Oil Company operated a refinery and associated pressure stills on the property from approximately 1923 to 1932.

Downtown Laramie is located in the eastern part of the Study Area. Originally built in 1872, the Wyoming Territorial Prison is located in the southwest corner of the Study Area. The historic prison was restored in 1989 and is now a state park and tourist attraction.

Figure 3-2: Zoning



Chapter 3: Affected Environment, Impacts, And Mitigation

Future Land Use

Land within the Study Area is classified as being developed or within Urban Growth Areas for the City of Laramie. The *Laramie Comprehensive Plan* establishes guiding principles for how and where the community should grow. The West Side Neighborhood is identified in the Comprehensive Plan as a neighborhood at risk for continued decline and disinvestment. The Comprehensive Plan expresses a desire to reverse that decline and enable neighborhoods such as the West Side Neighborhood to continue to be a viable, livable area. Other than the possible rejuvenation of the British Petroleum/Amoco property no rezoning is planned.

Land Use Impacts

No-Build Alternative: The No-Build Alternative would not result in impacts to land use or zoning in the Study Area. The only improvements associated with the No-Build Alternative would include the required repairs and maintenance of the Clark Street viaduct as it continues to deteriorate with age.

Impacts Common to All Build Alternatives: Improvements associated with all Build Alternatives would result in the di-

rect conversion of land to transportation use. Acquisition of right-of-way would be necessary to implement improvements, resulting in the potential for displacement of residences. Since Clark Street would be converted to a discontinuous street, all Build Alternatives would substantially reduce congestion along Clark Street which could affect future development in these areas. Additionally, removal of the Clark Street viaduct would improve intra-connectivity within the West Side Neighborhood.

Alternative 1A: This alternative places the viaduct and roadway over an existing residential street. To accommodate the viaduct, right-of-way would be acquired on both the north and south sides of the corridor along Harney Street. Where the alignment extends south, just east of the Rocky Mountain Forest Products facility and Laramie Cold Storage facility, land would be converted to transportation use. Additionally, a new east-west road north of Harney Street and south of the abandoned British Petroleum/Amoco refinery facility would also require right-of-way acquisition. Overall, Alternative 1A would result in conversion of approximately 16 acres to transportation uses (Table 3-1).



Residential Land Use



Commercial Land Use



Industrial Land Use

Table 3-1: Harney Land Use Impacts (Acres)

	Alternative 1A	Alternative 1C	Alternative 1D
Business	0.4	0.3	0.8
Commercial	1.4	1.4	2.7
Industrial	7.0	3.6	10.8
Vacant	3.5	2.1	3.9
Residential	3.7	4.5	0.8
Total	16	12	19

*Based on City of Laramie 2007 Zoning.



This alternative would be generally consistent with existing zoning because the proposed primary thoroughfare would still provide direct access to the area zoned business at the SH 230 and Clark Street intersection. The new roadway would be constructed predominantly in an area zoned industrial which would be compatible with that use. However, west of the Union Pacific Railroad (UPRR) Harney Street is located in a residentially zoned area. Increased traffic on this roadway would be less compatible with that land use and zoning category.

The West Side Neighborhood is identified in the Comprehensive Plan as a neighborhood in need of reinvestment in order to continue viability. Alternative 1A would not be entirely conducive to this need. Turning Harney Street into the main arterial through the north end of the West Side Neighborhood would sever the connection with the smaller number of houses north of Harney Street and could devalue residences on the street as a result of increased traffic.

Alternative 1C: The alignment for Alternative 1C extends southwest from where Harney Street currently dead-ends at the railroad corridor and would extend through the existing railroad spur just south of Flint Street to connect with SH 130/230. To construct the viaduct associated with this alternative, the acquisition of right-of-way would be necessary east of the UPRR corridor along Harney Street, and west of the UPRR corridor near the intersections of Railroad Street and Hodgeman Street and Flint Street and Hodgeman Street. Additionally, the extension of the alignment west to meet

SH 130/230 would require the acquisition of right-of-way south of Flint Street and north of Bradley Street. Overall, the alignment would result in approximately 12 acres converted to transportation uses (**Table 3-1**).

Alternative 1C would be least consistent with existing zoning. The proposed primary thoroughfare would still provide direct access to the area zoned for business; however, the new roadway would be primarily constructed on a new route passing diagonally through the residentially zoned area. This transportation use would not be compatible with residential uses.

This alternative would also serve to further divide the neighborhood making it less desirable for residential reinvestment and therefore less compatible with the Comprehensive Plan. Placement of a major thoroughfare diagonally through the neighborhood would distinctly divide the neighborhood between the north and south areas.

Alternative 1D (Preferred Alternative):

Because the alignment for Alternative 1D travels north of the West Side Neighborhood, fewer residential displacements would be necessary. From the intersection of 3rd Street and Harney Street, the viaduct would extend northwest over the UPRR corridor to just north of the neighborhood. The alignment would require converting approximately 19 acres to transportation uses north and west of the neighborhood to accommodate the street connection to SH 130/230 (**Table 3-1**).

Alternative 1D would be compatible with both existing zoning and land uses because all new transportation infrastructure would be entirely within areas zoned commercial or industrial.

Mitigation for Land Use Impacts

For any person(s) whose real property interests will be impacted by this project, the acquisition of those property interests will comply fully with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act) (see mitigation for Right-of-Way Impacts).

Mitigation for the incompatibility of existing and future land uses and zoning would be primarily the responsibility of the City of Laramie. Under alternatives 1A and 1C these incompatibilities could be reduced through changes in zoning. Under all Build Alternatives re-zoning some of the open lands currently zoned industrial to business could result in economic benefits that would help to realize future land use plans for continued viability of the West Side Neighborhood.

3.4 Social Resources

Existing Social Conditions

Population

The populations of both the City of Laramie and Albany County experienced little change from 1990 to 2000. However, between 2000 and 2010 the population of both Laramie and Albany county grew by 13% (see **Table 3-2**).

The City of Laramie is the county seat and is the most populous city in Albany

County. As a result of the rural nature of the remainder of Albany County outside of the Laramie city limits, the population of the City of Laramie makes up approximately 85% of the county population while only consisting of approximately 0.25% of the land area.

Community Facilities

The Study Area is located within an urbanized area and is comprised of residential, commercial and industrial uses. Community facilities that serve the area are discussed below and shown on **Figure 3-3**.

Lincoln Community Center

The Lincoln Community Center (365 West Grand Avenue/209 South Cedar Street) is a general community center for the West Side Neighborhood. Located in the recently renovated former Lincoln School this center offers a broad variety of services and programs to the local community. These include a public meeting space, a Montessori school, a day care center, a senior coffee area, and a commercial kitchen.

Public Safety Services and Health Care

The Laramie Fire Department operates three fire stations in Laramie, the station nearest the Study Area is Station 1 (209



*Fire Department - Station 1
(209 S. 4th Street)*

Table 3-2: Population Statistics

	1990	2000	2010
Laramie	26,687	27,204	30,816
Albany County	30,797	32,014	36,299

Source: US Census Bureau



S. 4th Street). Station 1 maintains a fleet of six firefighting units to suppress fires in the City of Laramie. The Laramie Fire Department also responds to fires in Albany County through an agreement with the Rural Fire District #1.

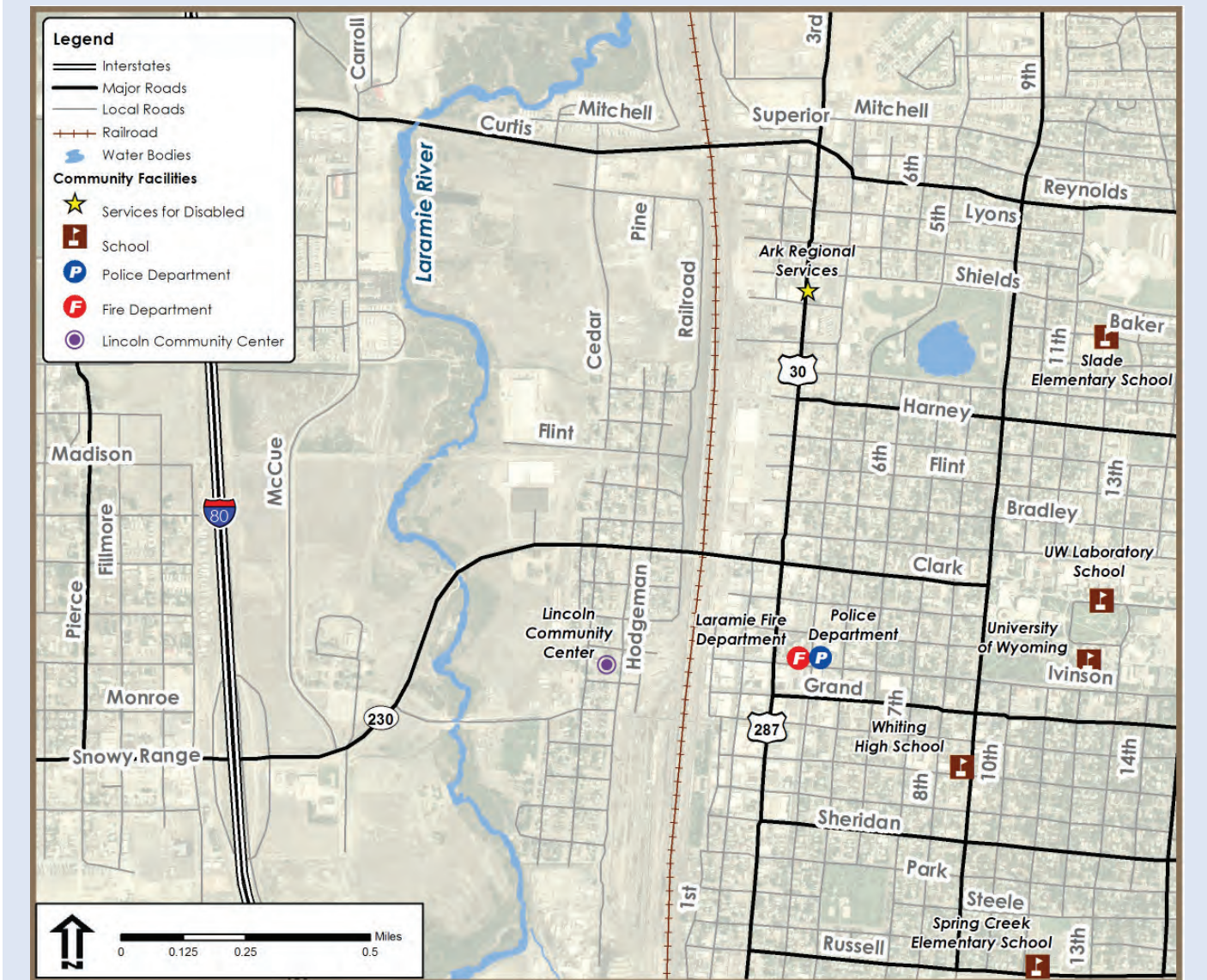
The Laramie Police Department is composed of two divisions. One division is located just east of the Study Area at 420 E. Iverson Avenue, and the other is just south of the Study Area at 620 Plaza

Court (near the intersection of I-80 and S. 3rd Street). The police department has 49 authorized sworn officers and 33 non-sworn employees.

Iverson Memorial Hospital, is located east of the Study Area (255 N. 30th Street). This hospital is the only major medical facility near the Study Area.

Ark Regional Services for Laramie, Wyoming is located just outside the Study

Figure 3-3: Community Facilities



Area at 1150 N. 3rd Street. The organization provides work and educational services for people with developmental disabilities and includes 13 group homes and an apartment complex. The apartment complex is located just two blocks north of the Ark building and is home to Ark students and employees who walk to and from work each day. Group homes are far enough away that the organization uses minivans to transport clients to and from work.

Schools

The City of Laramie is home to the University of Wyoming, Wyoming Technical Institute, and a branch of Laramie County Community College, none of which are located within the Study Area. Within the City of Laramie there are 47 schools (11 public and 36 private) providing education at varying levels of kindergarten through 12th grade. This includes one public high school located at 1275 N. 11th Street. The schools closest to the proposed improvements are Slade Elementary School, located at 1212 E. Baker Street and Laramie Christian School at 710 E. Garfield Street.

Housing

Housing trends in Laramie and Albany County tend to correlate with population growth in the area. **Table 3-3** presents a brief overview of housing characteristics for the City of Laramie and Albany County (2010 US Census). Between 2000 and 2010 the number of housing units increased from 12,001 to 14,307 (19.2%) in Laramie, and from 15,215 to 17,939 (17.9%) in Albany County.

Environmental Justice Profile

Environmental justice was first identified as a national policy in 1994 when President Clinton issued Executive Order 12898 (E.O. 12898), Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and required federal agencies to develop a strategy for incorporating environmental justice into the NEPA evaluation process. The purpose of E.O. 12898 is to ensure that minority and low income communities do not receive disproportionately high and adverse human health or environmental impacts as a result of federal actions.

E.O.12898 was enacted to reinforce Title VI of the Civil Rights Act of 1964, which states, "No person in the United States shall, on the grounds of race, color or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Subsequent Orders at the state and federal level, including DOT Order 5610.2 Order To Address Environmental Justice in Minority Populations and Low-Income Populations (U.S. DOT 1997) and FHWA Order 6640.23 Actions to Address Environmen-

Table 3-3: Housing Characteristics (2010)

	City of Laramie	Albany County
Total Housing Units	14,307	17,939
-Owner Occupied	6,014	7,834
-Renter Occupied	7,380	7,857
Vacant	913	2,248
Median Value (Owner)	\$183,800	\$189,500
Median Gross Rent (Renter)	\$644*	\$646*

*Source: 2010 U.S. Census *U.S. Census Bureau, 2006-2010 ACS*



tal Justice in Minority Populations and Low-Income Populations (FHWA 1998), have reinforced the legislation outlined in EO 12898.

Both census data and information from local sources were used to evaluate environmental justice concerns. Census data were used to compare the percentage of low-income and minority populations within the Study Area with the percentage of low-income and minority populations in Albany County. Census 2010 data were used to determine potential minority populations while data from the American Community Survey (ACS) 2006-2010 were used to determine potential low-income populations. Census 2010 did not provide income data that is required to determine potential low-income populations. FHWA Order 6640.23 defines low-income as "...a household income at or below the Department of Health and Human Services (HHS) poverty guidelines." The 2012 HHS-identified low-income threshold, adjusted for the average household size in Albany county, is \$15,803. Because census income statistics are divided into increments of \$5,000, the income threshold of \$20,000 is used in order to be more inclusive. In Albany County, 25.2 percent of households fall below this threshold. All six Census block groups located either partially or wholly within the Study Area have low-income populations greater than the county average. Of the 88 census blocks (used to calculate the percentage of minority communities) located either partially or wholly within the Study Area, 47 had greater percentages of minority populations than the county (**Figure 3-4**).

Information from local sources complemented census data in identifying minority and low-income populations within the Study Area. The Study Area was identified as an older section of town that is home to many senior citizens (personal communication, Gaye Stockman, President and Chief Executive Officer of Laramie Economic Development Corporation, March 12, 2010). Additionally, the area was identified as an affordable place for first-time home buyers. The West Side Neighborhood has a large minority (Hispanic) population, and can be characterized as low-income, even if college student residents (who have little or no income) are factored out of the calculation (personal communication, Randy Hunt, Senior Planner at the City of Laramie, March 9, 2010). While the neighborhood is steadily being gentrified, there has not been dramatic change.

A focused outreach program centered on insuring the involvement of the local community, especially those identified as environmental justice concerns, was conducted as part of the public scoping. This included a specific neighborhood meeting to which residents of the West Side Neighborhood were invited to attend and which occurred prior to the open house that all members of the public were invited. Flyers for this meeting providing information on the proposed project were distributed to residents of the neighborhood and their input was specifically requested. See Chapter 5 for additional information on the public scoping process.

All six census block groups located either partially or wholly within the Study Area have low income populations greater than the Albany County average.

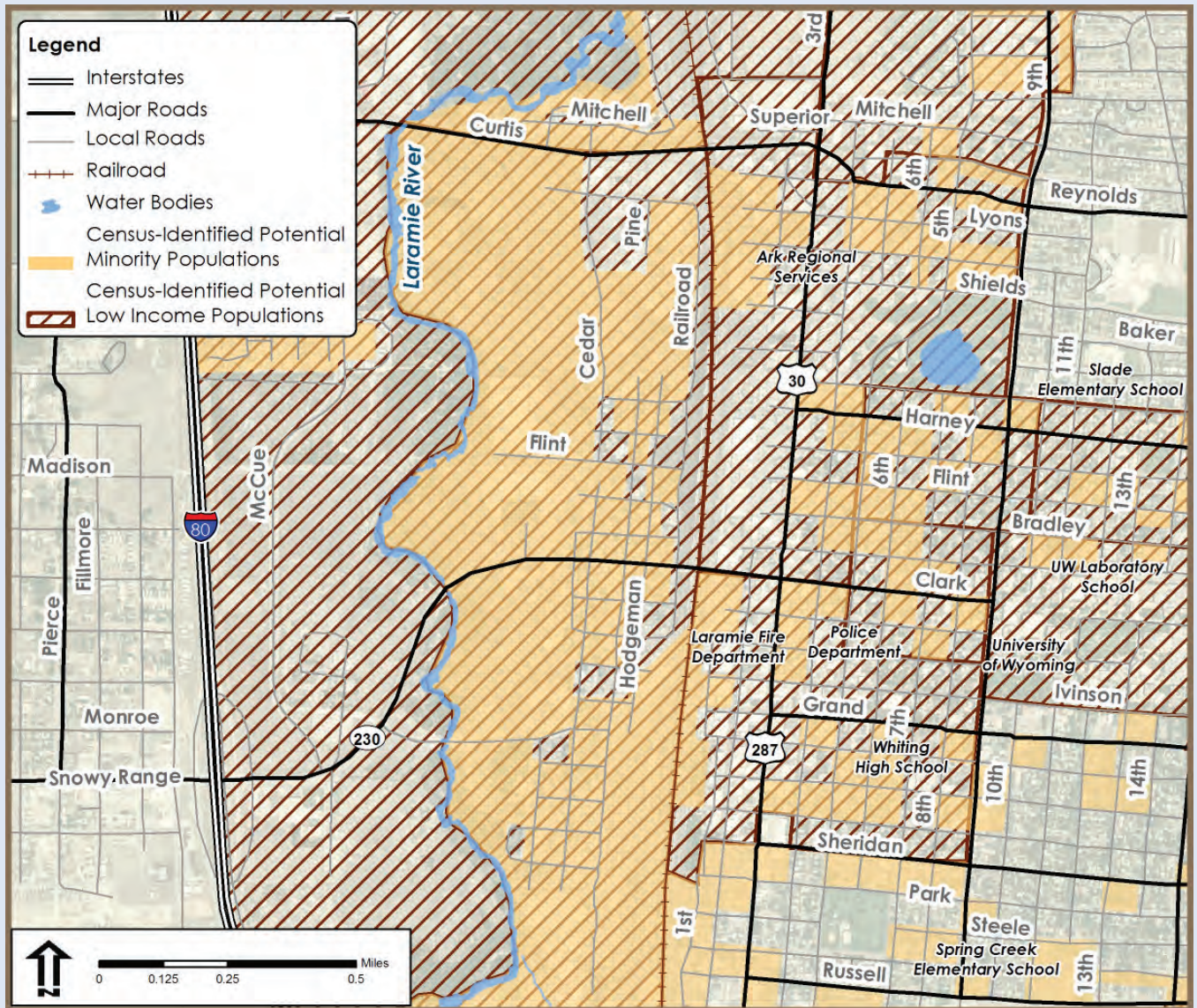
Social and Environmental Justice Impacts

The populations within the Study Area have been identified as potentially low-income and/or minority. Therefore, both the existing facility and all Build Alternatives are located entirely within communities identified as environmental justice concern. As a result, both the benefits and impacts resulting from any of the examined alternatives would be borne

primarily by populations of environmental justice concern. However, this is not being done in preference to constructing a facility in an area that is not predominately low income or minority and is therefore not discriminatory.

The following discussion of impacts applies entirely to populations of environmental justice concern.

Figure 3-4: Potential Minority and Low Income Populations





All build alternatives improve connectivity, access and safety along the new east-west arterial route.

No-Build Alternative: The No-Build Alternative would result in no changes to the social resources throughout the Study Area and there would be no negative or positive impacts to populations of environmental justice concern throughout the Study Area.

Impacts Common to All Build Alternatives: The proposed Build Alternatives would not affect overall population growth or housing development within or adjacent to the Study Area. Development could be distributed differently, with more occurring along the new roadway and less occurring along Clark Street because it would become discontinuous east of the West Side Neighborhood.

All alternatives would benefit residents of the City of Laramie by improving connectivity, access, and safety along the new east-west arterial route. Enhanced regional access would be the primary benefit of the proposed action to populations in the City of Laramie, some of whom are minority and/or low income and some of whom are not. Adding bike lanes and sidewalks along the viaduct would enhance safety conditions for pedestrians and provide better access to recreational activities in the area. Additionally, each Build Alternative would benefit emergency vehicles throughout the city by improving access and response times. Existing traffic patterns would be altered in a similar manner under all Build Alternatives. Overall, access to community facilities and travel times within the Study Area and throughout the city would be improved by the connectivity provided by the continu-

ous east-west corridor across the city. Under each Build Alternative, access for residents within the West Side Neighborhood would be affected differently resulting in some increased travel times to local community resources; however, average travel times would be similar across all alternatives.

All alternatives would result in improvement to scenic quality for the populations throughout the West Side Neighborhood as a result of the removal of the older dilapidated Clark Street viaduct structure and replacement with a newer more visually appealing Harney Street viaduct structures.

During construction, temporary detours, out-of-direction travel, and construction-related noise would impact residents throughout the Study Area and in the overall Laramie community.

Alternative 1A: Under Alternative 1A all displacements, noise impacts, visual impacts, impacts to community cohesion, access, etc., both negative and beneficial, would occur primarily to low income and minority populations.

Alternative 1A would result in the full acquisition and relocation of three businesses and partial acquisition of property from four businesses. Full acquisition and relocation of 11 residential parcels would occur. As a result of the widening of Harney Street and residential displacements, residences north of the viaduct would likely become isolated leading to a disruption of community cohesion. All of the approximately 20 sensitive noise receptors impacted under this alternative would be residences

within the area of environmental justice concern. Visual impacts to residences near the proposed Harney Street facility would be negative.

To summarize, the negative effects to the West Side Neighborhood are not considered disproportionately high and adverse primarily because of the offsetting benefits that are provided (improved east-west city-wide mobility, enhanced pedestrian and bicycle circulation and safety).

Alternative 1C: Under Alternative 1C all displacements, noise impacts, visual impacts, impacts to community cohesion, access, etc., both negative and beneficial, would occur exclusively to these low income and/or minority populations.

Alternative 1C would result in the full acquisition and relocation of three businesses and partial acquisition from three businesses. Full acquisition and relocation of 9 residential parcels would occur. This alternative may create some access difficulty for the residents of the West Side Neighborhood as a result of only two points of entry to the new cross-town roadway created by construction of the Harney Street viaduct. All of the approximately twelve sensitive noise receptors impacted under this alternative would be residences within the area of environmental justice concern. Visual impacts to residences near the proposed Harney Street facility would be negative.

Under Alternative 1C, the impacts borne by the West Side Neighborhood would be highest out of the proposed alternatives as a result of the negative effects

to community cohesion and the fewest access points to the new facility. However, Alternative 1C would not result in disproportionately high and adverse impacts because offsetting beneficial effects of the proposed improvements would be provided to these populations.

Alternative 1D (Preferred Alternative):

Under Alternative 1D all noise impacts, visual impacts, impacts to community cohesion, access, etc., both negative and beneficial, would occur primarily to these low income and/or minority populations.

Alternative 1D would result in the full acquisition and relocation of three businesses and partial acquisition of property from four businesses. Full acquisition and relocation of two residential parcels would occur. Because the Alternative 1D alignment would run north of the neighborhood, no community cohesion impacts are anticipated. All of the approximately four sensitive noise receptors impacted under this alternative would be residences within the area of environmental justice concern. Minor negative visual impacts would occur to residences near the proposed new facility.

3.5 Economic Resources

Existing Economic Conditions

From 2000 to 2010, Albany County's labor force increased nearly 14 percent from 18,182 to 20,672. During the same period, the County's unemployment rate increased from 1.5 percent to 4.6 percent (US Bureau of Labor Statistics).

None of the three build alternatives would result in disproportionately high and adverse impacts to low income and minority populations.



University of Wyoming

Source: <http://www.uwyo.edu/registrar/index.html>

According to the Laramie Economic Development Corporation, whose goal is to attract and retain new businesses in the City of Laramie, many graduating University of Wyoming students would stay in Laramie if employment were available (personal communication with Gaye Stockman, March 2010). Economic trends for the City of Laramie and Albany County are presented in **Table 3-4**.

The top employment sectors in Albany County include educational, health and social services, retail business, and entertainment/recreation (US Census Bureau, ACS 2005-2007). The University of Wyoming provides much of the employment in the educational sector.

The growth of the Laramie area can be demonstrated by the number of building permits issued. According to the study *Economic Indicators for the Laramie Area by the Wyoming Center for Business and Economic Analysis* in September, 2008, an average of 151 building permits were issued per month in 2007. In 2008, construction slowed; as of June, 2008, an average of 134 building permits were issued monthly.

However, the average total dollar value of construction in 2008 was greater than that in 2007 (mostly due to the construction of a new IT building and an addition to the main library at the University of Wyoming).

WYDOT and Albany County are currently developing a rail spur south of I-80 and west of US 287 on the UPRR to provide access to an area adjacent to three existing railroad tracks where freight can be offloaded from railroad cars to trucks or vice-versa. The development of this new rail spur to the south of the Laramie Cold Storage and the Rocky Mountain Forest Products businesses will provide these and any other future businesses within the Study Area with access to the UPRR.

Economic Impacts

No-Build Alternative: Under the No-Build Alternative there would be no change in the economic conditions within the Study Area. Without improvements in access that would benefit the West Side Neighborhood it is unlikely that any reinvestment in the community would occur.

Table 3-4: Economic Trends

	City of Laramie			Albany County		
	2000	2010*	% Change 2000-2010	2000	2010*	% Change 2000-2010
Per Capita Income	\$16,036	\$21,882	36.5	\$16,706	\$24,862	48.8
Median Household Income	\$27,319	\$36,722	34.4	\$28,790	\$43,358	50.6
Labor Force	15,504	17,687	14.1	18,182	20,672	13.7
Employment	14,616	16,803	15.0	17,168	18,732	14.9
Unemployment	863	870	0.8	989	926	-6.4

Source: US Census 2000, *2008-2010 ACS 3-Year Estimates

Impacts Common to All Build Alternatives: All Build Alternatives would result in short term construction impacts that could temporarily affect access to local businesses. However, over the long term, improvements in system connectivity and increased mobility would benefit local businesses. Any of the three alternatives would likely result in expansion of downtown Laramie northward, according to the City of Laramie.

Businesses along Clark Street, such as Bernie's Mexican Restaurant (located at the intersection of Clark Street and Cedar Street), may be impacted by the reduction in traffic volumes along Clark Street when the Clark Street viaduct is removed. However, each alternative would accommodate access to the west end of Clark Street. On the east side of the UPRR potential economic development would likely increase along Clark Street as a result of the viaduct removal. The new roadway alignments through the West Side Neighborhood and connecting across to Harney Street could (with rezoning) create an environment for economic development to parcels located adjacent to its alignment.

All build alternatives would eliminate the at-grade crossing that currently provides access for the Laramie Cold Storage and the Rocky Mountain Forest Products businesses.

Construction of the Build Alternatives would have the potential to generate a small amount of construction related employment. Sales of locally sourced construction materials could also ex-

perience a minor boost, as would local supporting retailers such as local convenience stores and restaurants.

Alternative 1A: This alternative would result in the full acquisition and relocation of five active business and partial acquisition of four active business properties.

Alternative 1C: This alternative would result in the full acquisition of five active business and partial acquisition of three active business properties.

Alternative 1D (Preferred Alternative): This alternative would result in the full acquisition of five active business and partial acquisition of four active business properties.

3.6 Transportation and Traffic Issues

This section describes the future transportation conditions within the Study Area and the City of Laramie in general and both state and city plans as they pertain to this project.

The level to which each of the Build Alternatives satisfies the purpose and need is discussed in this section and is presented as a comparative analysis among the Build Alternatives (1A, 1C, and 1D).

System Connectivity

The No-Build Alternative would maintain the existing connection between east and west Laramie and the regional roadway network. Distance traveled between 3rd Street and the Laramie River Bridge will be unaffected and remain at approximately 0.50 mile.



The distance of travel between 3rd Street (at the Harney Street intersection) and the merge with the Snow Range Road (at the Laramie River Bridge) varies among alternatives: the No-Build Alternative – 0.50 mile; Alternative 1A – 0.90 mile; Alternative 1C – 0.76 mile; and Alternative 1D – 1.00 mile. Incorporating an average speed of 30 miles per hour (mph) with the actual distance for each of the alternative, the No-Build Alternative would require approximately 1 minute (depending on the level of congestion); Alternative 1A would require 1 minute 40 seconds of travel time; Alternative 1C would require 1 minute 22 seconds of travel time; and Alternative 1D would require 1 minute 51 seconds of travel time: resulting in a maximum travel time differential among the three Build Alternatives of 29 seconds.

Vehicle miles traveled (VMT) for each Build Alternative was calculated based on the average annual daily traffic (AADT) and the roadway distance. The results of this evaluation indicate that Alternative 1D would result in the greatest VMT (25,000) and Alternative 1C the least (18,750). Alternative 1A would result in a VMT of 22,500.

Future Roadway Network Accommodation

The No-Build Alternative would maintain the two-lane Clark Street and Clark Street viaduct. This facility is not expected to support the anticipated 40 percent increase in traffic volume by the year 2032 (see **Figure 3-5**). Current traffic volumes result in congestion at the 3rd Street and Clark Street intersection.

Traffic: All three Build Alternatives would provide for a 4-lane facility and therefore support forecasted 2032 traffic volumes. As such, these alternatives would satisfy the project's purpose and need for providing transportation service, increased capacity, and improved functionality for the roadway network and land use.

All three Build Alternatives would include a roadway extension west from the 3rd Street and Harney Street intersection to a connection with SH 130/230 immediately east of the Laramie River.

With all three Build Alternatives, the Clark Street viaduct would be removed and that connection between 3rd Street and SH 130/230 would be eliminated. Clark Street would end east and west of the railroad. Traffic along the remaining Clark Street roadway between 3rd Street and the railroad and between SH 130/230 and the railroad would be limited to local traffic and traffic on Clark Street would decrease dramatically from existing conditions.

3.7 Right-of-Way

Existing Conditions

Albany County parcel mapping provided the information necessary for the analysis of existing right-of-way in the Study Area. The neighborhood roads within the Study Area, including Harney Street, have approximately 12 foot wide lanes, with one lane in each direction in travel. Using parcel mapping data, typical existing right-of-way for Harney Street is 80 feet.

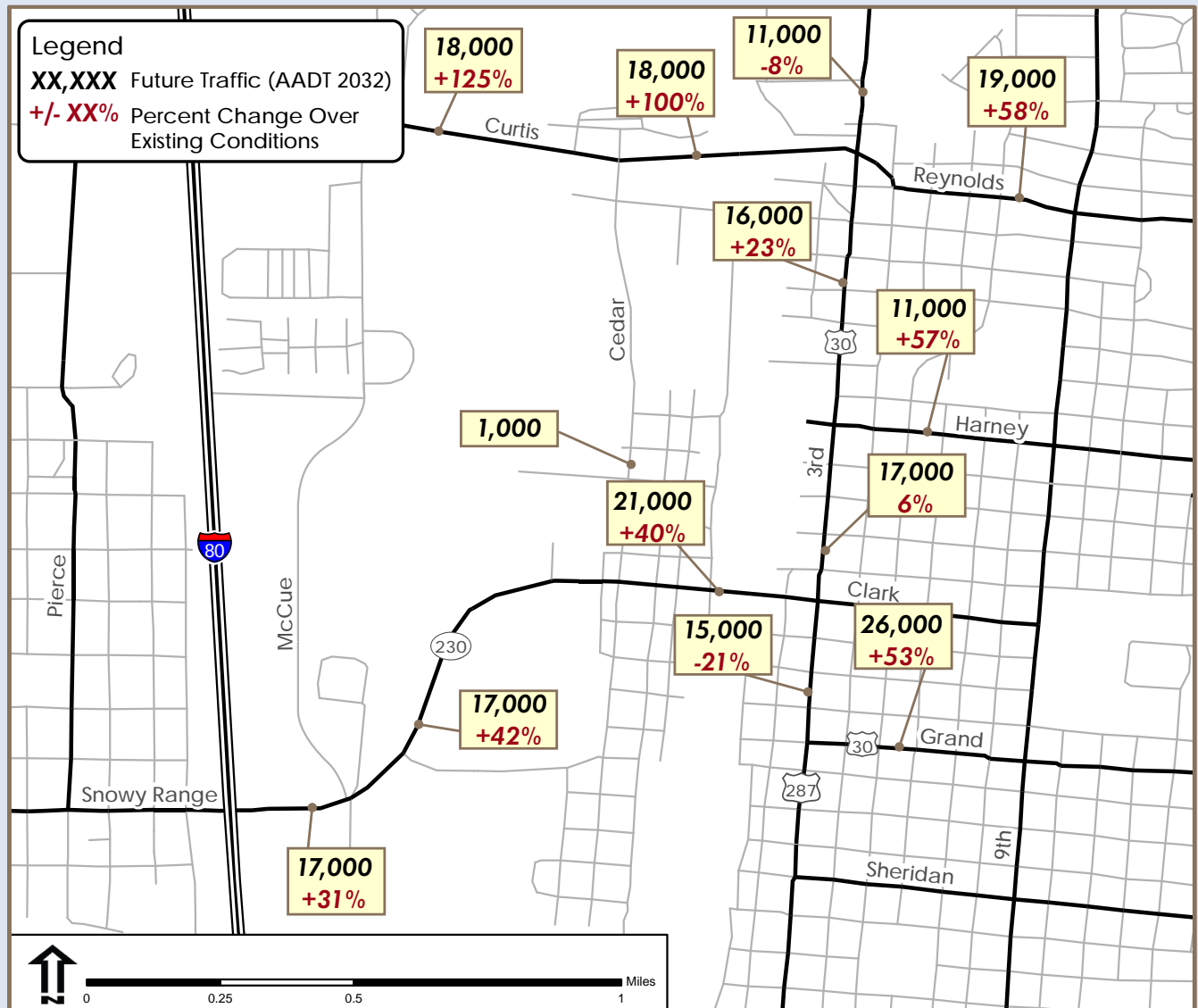
Right-of-Way Impacts

Impacts to existing right-of-way were determined based on estimated roadway and bridge structure property requirements. Actual property requirements will be determined at final project design. Additionally, impacts presented are based on individual parcel data. (see Table 3-5).

No-Build Alternative: The No-Build Alternative would not require any right-of-way or relocations.

Alternative 1A: Alternative 1A would result in 20 full acquisitions and 24 partial acquisitions. Additionally, a new east-west road north of Harney Street and south of the abandoned British Petroleum/Amoco refinery facility would also

Figure 3-5: No-Build Alternative Future Traffic Volume





require right-of-way acquisition (see **Figure 3-6**).

Alternative 1C: Alternative 1C would result in 24 full acquisitions and 12 partial acquisitions (see **Figure 3-7**).

Alternative 1D (Preferred Alternative): Alternative 1D would require 10 full acquisitions and 16 partial acquisitions. This would include acquisition of 4 hazardous materials parcels at the abandoned British Petroleum/Amoco facility. The alignment would require the acquisition of right-of-way north and west of the neighborhood to accommodate the connection to SH 230 (see **Figure 3-8**).

Mitigation for Right-of-Way Impacts

For any person(s) whose real property interests will be impacted by this project, the acquisition of those property interests will comply fully with the Uniform Act. The Uniform Act is a federally mandated program that applies to all acquisitions of real property or displace-

ments of persons resulting from federal or federally assisted programs or projects. It was created to provide for and ensure the fair and equitable treatment of all such persons.

Additionally, the Fifth Amendment of the United States Constitution provides that private property may not be taken for a public use without payment of “just compensation.” All impacted owners will be provided notification of the WYDOT’s intent to acquire an interest in their property including a written offer letter of just compensation specifically describing those property interests. A right-of-way specialist will be assigned to each property owner to assist them with this process.

There could be additional instances that require the removal and relocation of personal property from a proposed right-of-way acquisition. In those circumstances, the owners of the displaced personal property are entitled to reloca-

Table 3-5: Parcel Acquisitions (Estimated)

	Full			Partial		
	Occupied	Vacant	Total	Occupied	Vacant	Total
Commercial						
Alternative 1A	5	2	7	6	2	8
Alternative 1C	5	6	11	3	3	6
Alternative 1D	5	1	6	6	5	11
Residential						
Alternative 1A	11	2	13	11	5	16
Alternative 1C	9	4	13	4	2	6
Alternative 1D	2	2	4	3	2	5

Figure 3-6: Alternative 1A Parcel Acquisitions

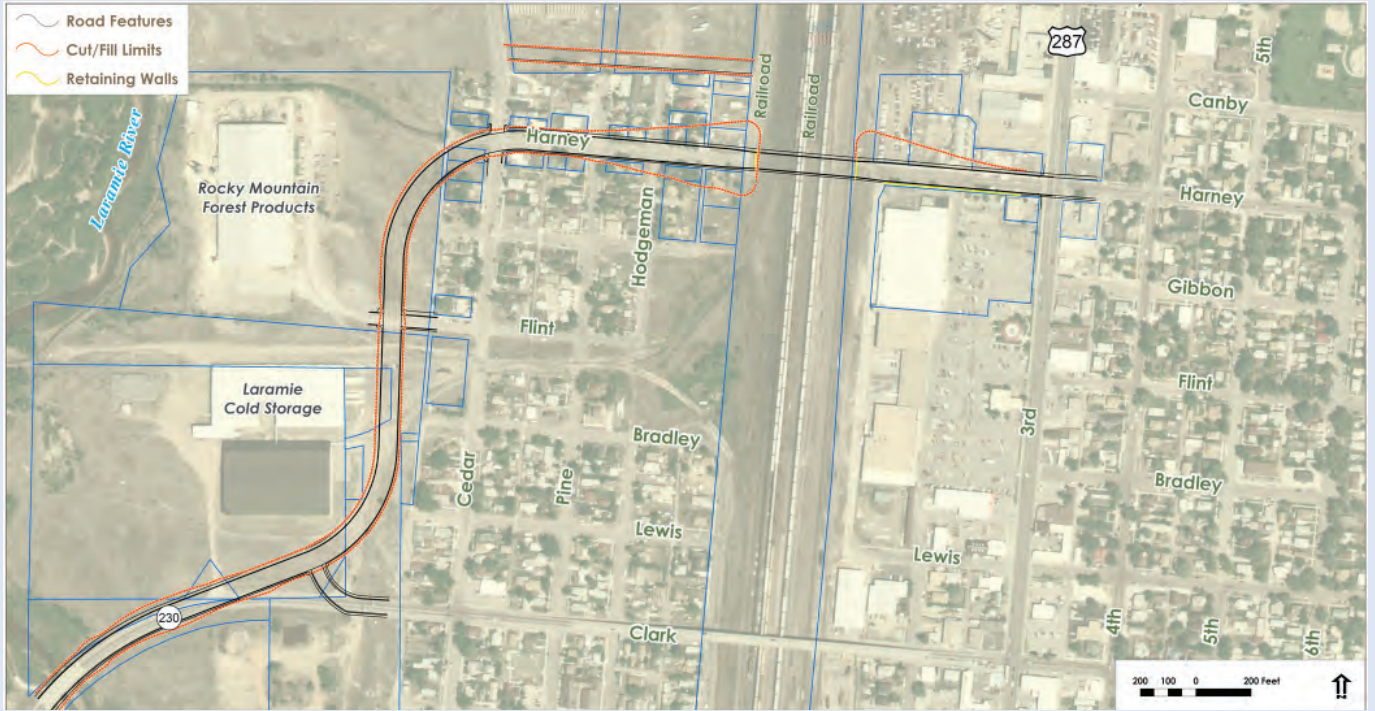


Figure 3-7: Alternative 1C Parcel Acquisitions

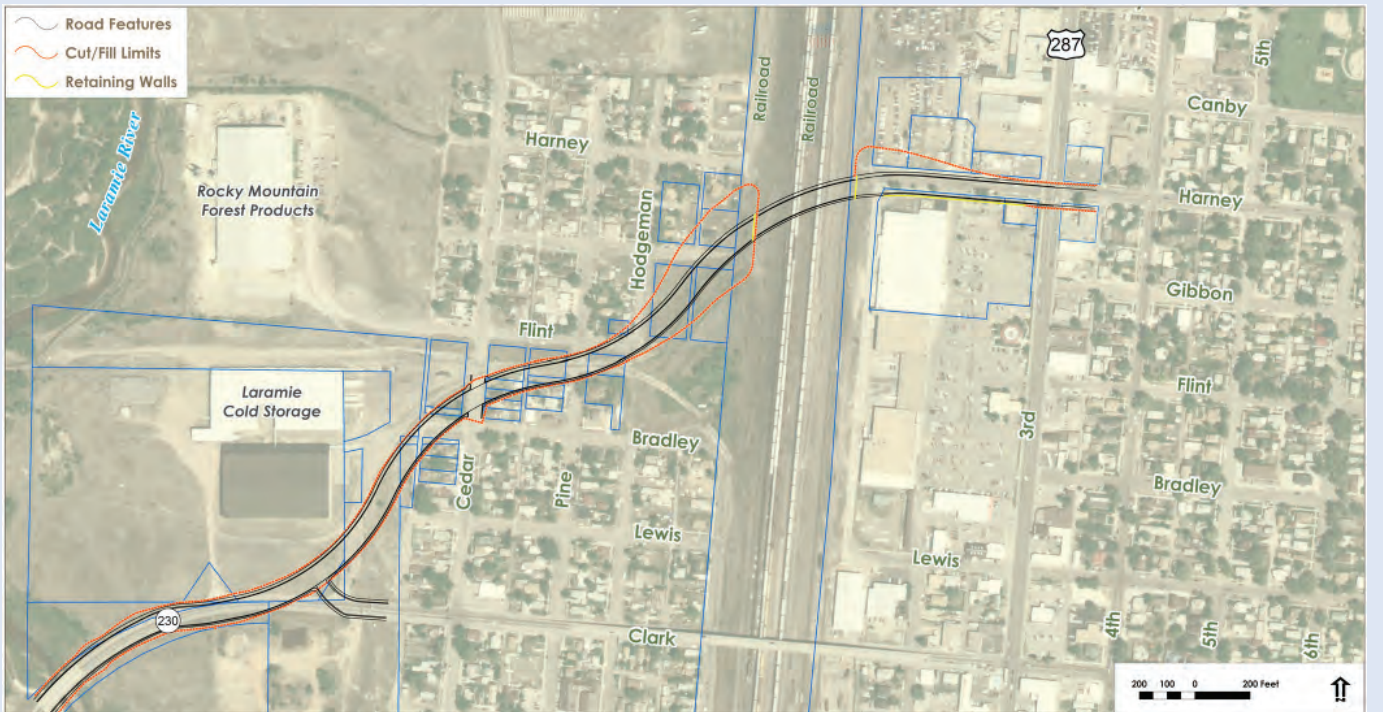
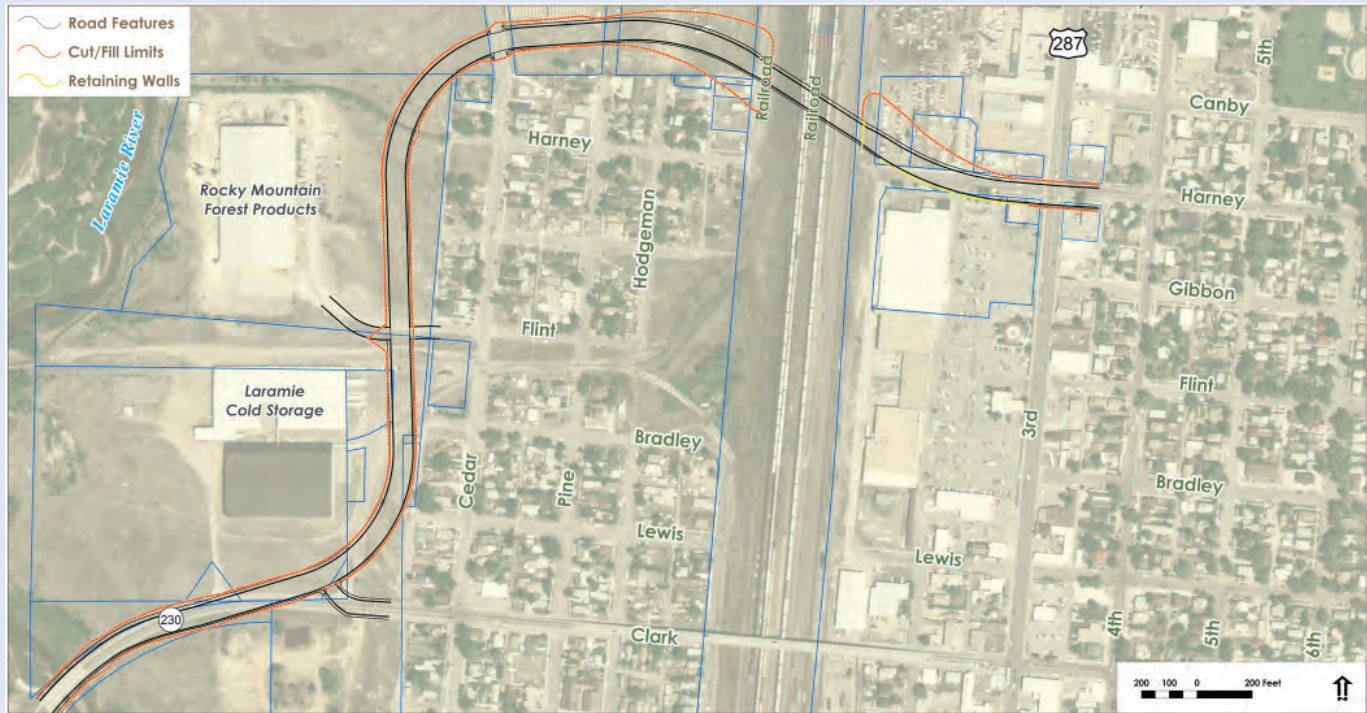




Figure 3-8: Alternative 1D Parcel Acquisitions



tion benefits and advisory services under the Uniform Act. Relocation benefits will be provided to all eligible persons regardless of race, color, religion, sex, or national origin. Benefits under the Uniform Act, to which each eligible owner or tenant may be entitled, will be determined on an individual basis and explained to them in detail by an assigned right-of-way specialist.

3.8 Air Quality

Under the federal Clean Air Act (CAA), the Environmental Protection Agency (EPA) is required to establish national ambient air quality standards (NAAQS) for the following pollutants: carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}), and lead. The State of Wyoming has adopt-

ed the NAAQS for these criteria pollutants. Geographic areas that exceed criteria pollutant(s) NAAQS are considered "non-attainment" areas for that pollutant and require analyses under the conformity provisions of the CAA. Conversely, areas that meet the criteria pollutant(s) NAAQS are considered "attainment" areas and no analyses are required under the conformity provisions of the CAA. The entire Albany County area is in attainment for all criteria pollutant NAAQS. Therefore, additional air quality analyses are not required.

However, the issue of greenhouse gases (GHGs) is an important concern and the State of Wyoming is starting to implement climate change considerations into their transportation planning and environmental review processes. The

transportation sector is the second largest source of total GHGs in the U.S., and the greatest source of carbon dioxide (CO₂) emissions – the predominant GHG. In general, a project level analysis for CO₂ is not suitable since its effects are global in nature and the impacts of any single transportation project cannot be effectively estimated in terms of global warming effect at this time. However, a qualitative analysis has been provided based on the Federal Transit Administration (FTA) Small Starts Program Guidance for calculating CO₂ emissions per day. Total CO₂ emissions are calculated using vehicle miles traveled (VMT), energy consumption and CO₂ emissions. **Table 3-6** summarizes the approximate tons of CO₂ emissions emitted per day in 2032 for each of the Build Alternatives.

Based on the calculations in **Table 3-6**, it is anticipated that CO₂ emissions resulting from Alternative 1D would be somewhat more than Alternative 1A or Alternative 1C. This would not affect the ability of Albany County to retain its current designation as an attainment area.

3.9 Noise

The WYDOT has developed guidelines for the analysis and abatement of highway traffic noise. These guidelines are set forth in the document entitled *Wyoming Noise Analysis and Abatement Policy* (July 2011). The WYDOT noise guidelines are consistent with those developed by the FHWA (23 Code of Federal Regulations 772). The noise analysis was conducted in accordance with these guidelines (**Table 3-7**).

FHWA has established Noise Abatement Criteria (NAC) for land activity categories. The activity categories are areas where frequent human outdoor use takes place. The common noise descriptor used for this analysis is the A-weighted decibel (dBA). WYDOT considers noise abatement when noise levels approach 1dBA less than or exceed the federal standard noise levels of 67 dBA. WYDOT also considers noise abatement when a substantial increase of 15 dBA occurs over the existing noise levels.

None of the Build Alternatives would affect the current “attainment” status of Albany County.

Table 3-6: Total CO₂ Emissions

Vehicle Class	Daily VMT*	Energy Consumption (BTU/Vehicle Mile)**	CO ₂ Emissions (tons/day)
No-Build Alternative			
Passenger Vehicle	15,230	6,233	7.04
Heavy Duty Vehicle	15,230	22,046	0.40
Bus/Diesel	15,230	41,655	0.75
Total			8.19
Alternative 1A			
Passenger Vehicle	22,500	6,233	10.41
Heavy Duty Vehicle	22,500	22,046	0.59
Bus/Diesel	22,500	41,655	1.11
Total			12.11
Alternative 1C			
Passenger Vehicle	18,750	6,233	8.67
Heavy Duty Vehicle	18,750	22,046	0.49
Bus/Diesel	18,750	41,655	0.92
Total			10.08
Alternative 1D			
Passenger Vehicle	25,000	6,233	11.56
Heavy Duty Vehicle	25,000	22,046	0.65
Bus/Diesel	25,000	41,655	1.23
Total			13.44

Source: FTA Small Starts Program

*VMT = Vehicle Miles Traveled

**Transportation Energy Data Book Edition 16

CO₂ Consumption: Cambridge Systematics, Inc – Energy Information Administration (1996) and Delucchi (1996)



Methodology

The methodology employed for this analysis is consistent with both FHWA and WYDOT guidelines for analyzing traffic noise. FHWA’s approved Traffic Noise Model (TNM 2.5) was utilized for this analysis. The basic inputs to noise modeling include roadway network layout, site characteristics, traffic volume projections, fleet mix, and vehicular operating speeds (posted speeds ranging from 25 to 45 mph). Roadway and receptor geometry was included based on a civil design CAD file and aerial photography.

Traffic Data

Traffic volumes from existing (2009) and future (2032) traffic models were used to derive peak-hour volumes for use in this study’s TNM 2.5 (see Appendix A). The vehicle mix assumed was 98 percent automobiles and 2 percent trucks. The existing posted speed limit is 25 mph on the local roadways and Cedar Street and 30 mph on Clark Street.

Existing Noise Conditions

Noise measurements were taken at three locations within the Study Area to determine ambient noise levels. Traffic

Table 3-7: FHWA Noise Abatement Criteria, Hourly A-Weighted Sound Level Decibels (dBA)¹

Activity Category	Activity Leq(h)	Criteria ² L10(h)	Evaluation Location	Description of Activities
A	57	60	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ³	67	70	Exterior	Residential
C ³	67	70	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	55	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E ³	72	75	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A – D or F.
F	NA	NA	NA	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	NA	NA	NA	Undeveloped lands that are not permitted for development.

1 – Either Leq(h) or L10(h) (but not both) may be used on a project.

2 – The Leq(h) and L10(h) Activity Criteria values are for impacted determination only, and are not design standards for noise abatement measures.

3 – Includes undeveloped lands permitted for this activity category.

Source: Wyoming Department of Transportation, Noise Analysis and Abatement Policy, July 2011

counts, by vehicle type, were collected simultaneously with the noise measurements. Operating speeds and existing geometry were also collected. Traffic counts and operating speed data were input into the FHWA approved TNM 2.5 for validation (see **Table 3-8**). Locations of the field measurements are depicted on **Figures 3-9, 3-10, and 3-11**. The difference between the field recordings and the model predicted noise levels was less than 1 dBA. Humans can detect change over 3 dBA. Therefore, the noise measurements are validated.

There are numerous noise sensitive receptors located within the Study Area which were included in the noise analysis (see **Figures 3-9, 3-10, and 3-11**). An existing railroad corridor is located east of the noise sensitive receptors. However, the noise analysis does not account for railroad freight noise. Therefore, the modeled noise levels represent traffic noise only. It is anticipated that existing noise levels would be higher than the modeled noise levels due to railroad freight noise (in Table B1, Appendix B).

Noise Impacts

Since there are numerous receptors within the Study Area, the receptors were grouped together by activity. For example, Receptor 2 represents three residential receptors (2, 3, and 4) since

the noise levels and activities are similar (see Table B1, Appendix B). The representative receptors are depicted on **Figure 3-9** through **Figure 3-11**. Noise levels were not predicted for those receptors that would be potentially acquired.

Alternative 1A: There are approximately 20 noise sensitive receptors impacted as a result of Alternative 1A. Receptors 7, 14, 15, 19 – 21, 26 – 29, 33 – 35, 39 – 41, 46, 47, 51, and 52 are predicted to have noise levels that approach or exceed the FHWA NAC of 67 dBA or would have a future substantial increase over existing conditions. Therefore, consideration of noise abatement measures is warranted.

Alternative 1C: There are approximately 12 noise sensitive receptors impacted as a result of Alternative 1C. Receptors 74, 76 – 78, 82, 83, 88, 89, 91, 97, 98, and 105 are predicted to have noise levels that approach or exceed the FHWA NAC of 67 dBA or would have a future substantial increase over existing conditions. Therefore, consideration of noise abatement measures is warranted.

Alternative 1D: There are approximately 4 noise sensitive receptors impacted as a result of Alternative 1D. Receptors 5, 7, 8, and 121 are predicted to have noise levels that approach or exceed the FHWA NAC of 67 dBA or would have a

Table 3-8: Field Recorded and TNM Predicted Noise Levels

Location	Field Recorded Noise Levels L(eq)	TNM Predicted Noise Levels L(eq)	Difference L(eq)
Meter #1 – Harney and Cedar	56.7	57.0	+0.3 dBA
Meter #2 – Flint and Pine	53.4	53.6	+0.2 dBA
Meter #3 – Clark and Pine	64.9	64.8	-0.1 dBA



future substantial increase over existing conditions. Therefore, consideration of noise abatement measures is warranted.

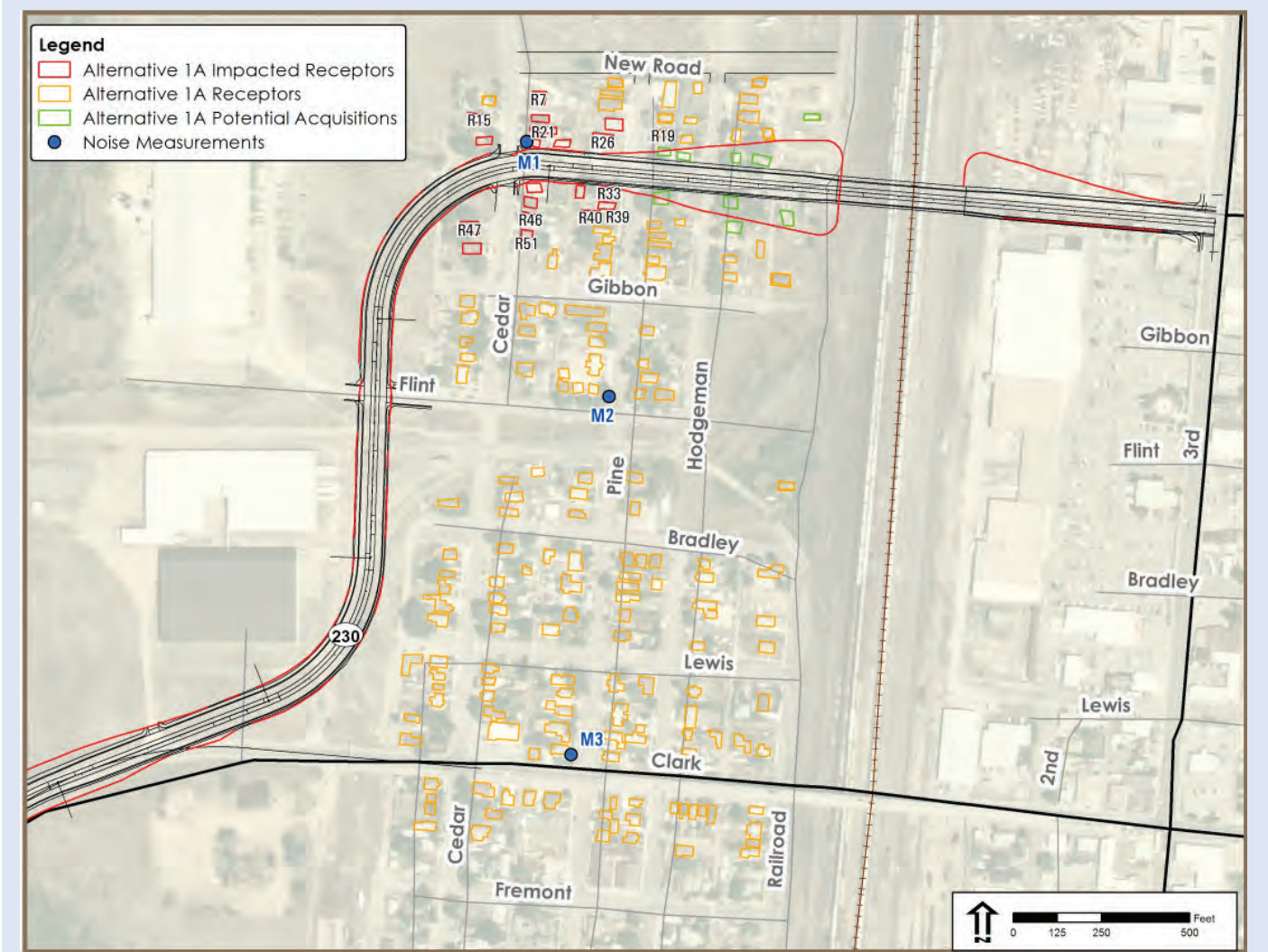
The noise analysis only includes traffic noise. According to the Union Pacific Railroad (UPRR), there are approximately 60 trains per day (30 daytime and 30 nighttime) with approximately 4 locomotives per train that run through the Study Area. The average speed for this area is approximately 50 mph. Although it is as-

sumed noise levels would be higher for both existing and future conditions due to railroad freight noise, noise abatement was not considered for railroad freight noise since there are no proposed improvements to the railroad.

Noise Mitigation

Impacted areas have been evaluated for consideration of noise abatement according to *Wyoming Noise Analysis and Abatement Guidelines* (July 2011).

Figure 3-9: Alternative 1A - Noise Sensitive Receptors



Four noise abatement measures were considered for this project:

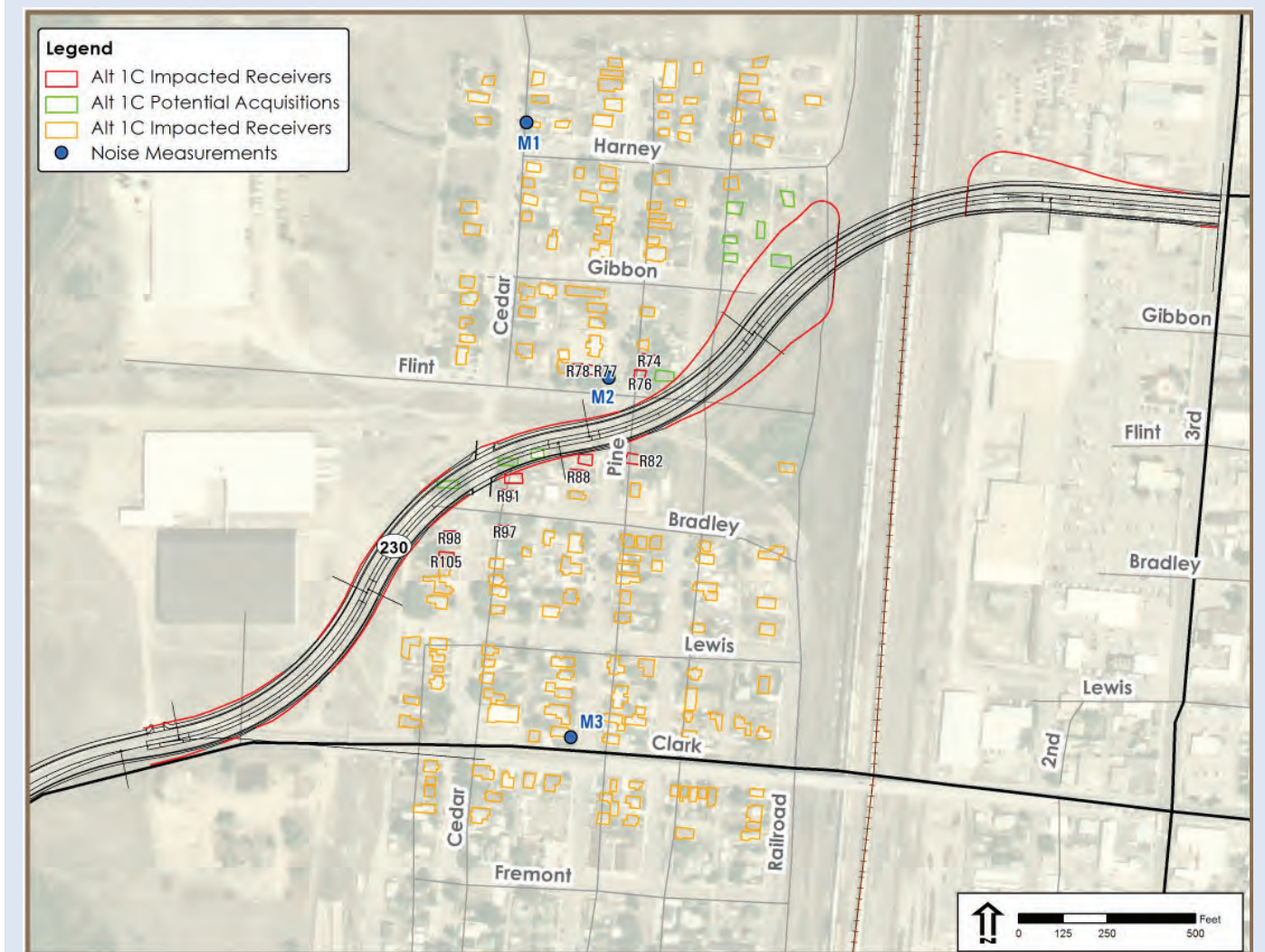
- Alteration of the vertical or horizontal roadway alignment
- Noise buffers by acquisition of undeveloped land
- Traffic management
- Noise barriers

All of the abatement options mentioned above were considered for this project. However, because of the configuration

and location of the proposed alternatives, abatement in the form of noise barriers is the only measure considered feasible for this project.

Noise abatement is addressed for feasibility and reasonableness for each receptors location. The feasibility analysis of mitigation considers such factors as the effectiveness of a barrier to achieve at least a 5 dBA noise reduction in predicted future noise levels, in addition to constructability, engineering,

Figure 3-10: Alternative 1C - Noise Sensitive Receptors





maintenance, or other design issues. The barrier cannot create a safety or unacceptable maintenance problem or engineering fatal flaw such as reduction of line-of-sight, accessibility deficiencies, icing, or other notable roadway maintenance concerns.

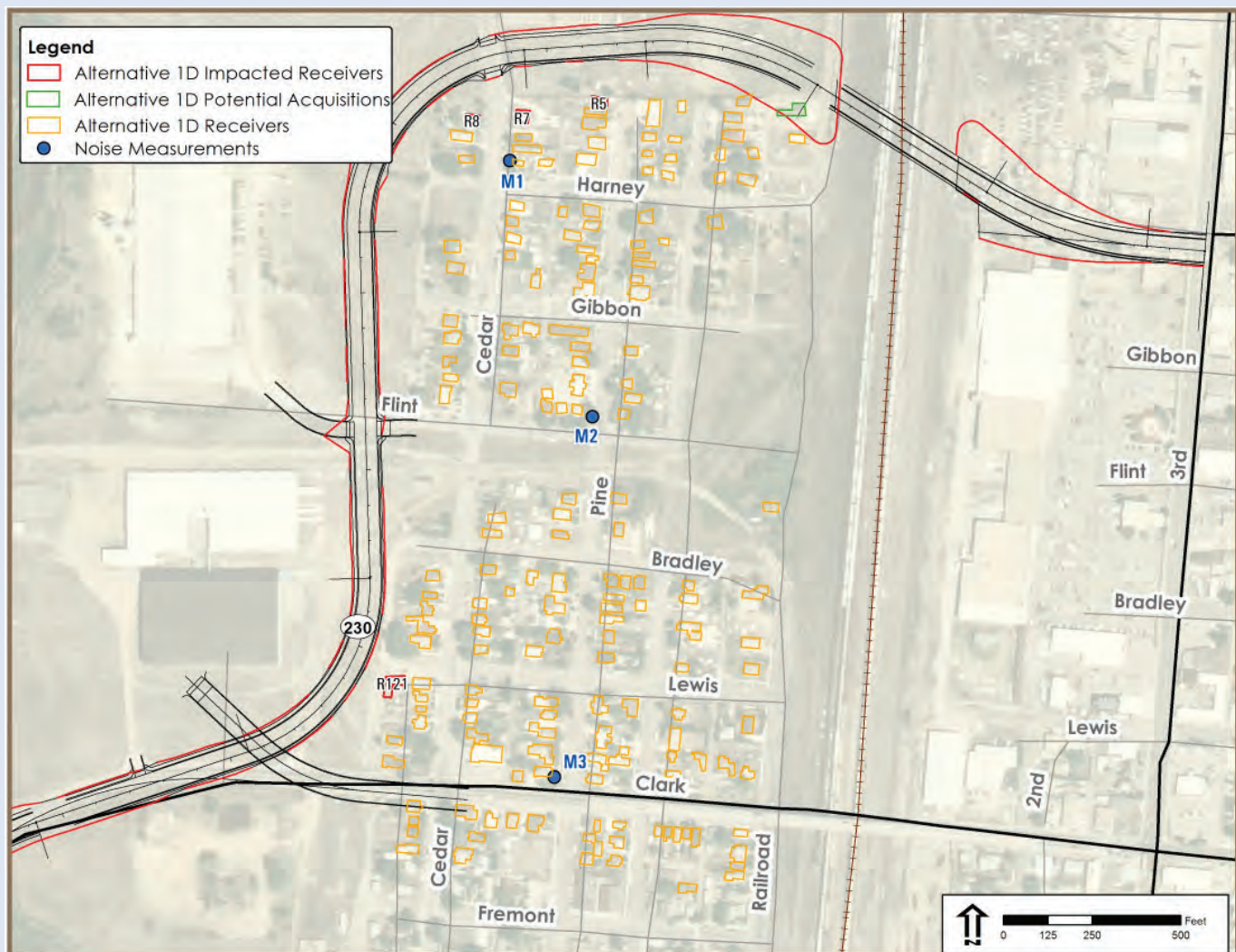
Noise mitigation is considered reasonable if it meets certain criteria, such as the noise reduction design goal, the cost per benefited receptors, and the benefited receptor's desires. Mitigation

measures are considered reasonable if they can achieve a minimum 7-dBA noise reduction for at least one receptors, and 5-dBA noise reduction for additional receptors (impacted or not).

According to WYDOT Noise Policy, the cost per benefited receptor is \$23,000. The cost of materials is based on \$45 per exposed square foot for a noise barrier.

The desires of the benefited receptors are considered in the evaluation of rea-

Figure 3-11: Alternative 1D - Noise Sensitive Receptors



sonableness of a noise barrier. The decision to build or not build noise abatement results from a 51 percent response from the benefited receptors.

Alternative 1 A

Noise barriers were not modeled for the impacted receptors adjacent to Alternative 1A since gaps would be required for access points along Harney Street rendering the barrier ineffective. Further, placing walls close to access points would result in inadequate sight distance, which would be a safety concern.

Alternative 1C

Three noise barriers were modeled within the right-of-way for the impacted receptors as a result of Alternative 1C.

Barrier 1

Noise barrier 1 was modeled along the northbound right-of-way line between Clark Street and Cedar Street. The barrier modeled was approximately 610 feet in length and ranged in height from eight feet to fourteen feet. **Table 3-9** summarizes the noise levels with and without mitigation as well as the noise reduction provided by the mitigation measures. **Table 3-10** summarizes the noise barrier analyses.

A fourteen-foot tall noise barrier meets the 5 dBA feasible noise reduction criteria and the reasonable noise reduction criteria of at least 7 dBA for at least one receptor (see **Table 3-9**). However, as shown in **Table 3-10**, the cost per benefited receptor exceeds WYDOT's cost reasonable criteria threshold of \$23,000. Therefore, a noise barrier would not be reasonable for the noise receptors in this area.

Table 3-9: Noise Mitigation Analysis for Barrier 1 (Alternative 1C)

Benefited Receptor	2032 Predicted Noise Level Without Mitigation (dBA)	2032 Predicted Noise Level w/ 14 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)
Receptor 98	68.6	61.6	-7.0
Receptor 105	66.2	59.7	-6.5
Receptor 109	64.7	59.3	-5.4
Receptor 114	63.7	58.6	-5.1
Receptor 115	63.4	58.1	-5.3
Receptor 121	63.6	59.1	-4.5

Table 3-10: Noise Barrier Analysis for Barrier 1 (Alternative 1C)

Barrier	Total Length of Barrier (feet)	Height of Barrier (Feet)	Total Cost of Mitigation *	# of Benefited Receptors	Cost per Benefited Receptor
1	610	14	384,300	5	\$76,860

*The cost of materials is based on \$45 per square foot.



Barrier 2

Noise barrier 2 was modeled along the northbound right-of-way line east of Cedar Street. The barrier modeled was approximately 520 feet in length and ranged in height from eight feet to twelve feet. **Table 3-11** summarizes the noise levels with and without mitigation as well as the noise reduction provided by the mitigation measures. **Table 3-12** summarizes the noise barrier analyses.

A ten-foot and twelve-foot tall noise barrier meets the 5 dBA feasible noise reduction criteria and the reasonable noise reduction criteria of at least 7 dBA for at least one receptor (see **Table 3-11**). However, as shown in **Table 3-12**, the cost per benefited receptor exceeds WYDOT's cost reasonable criteria threshold of \$23,000. Therefore, a noise barrier would not be reasonable for the noise receptors in this area.

Table 3-11: Noise Mitigation Analysis for Barrier 2 (Alternative 1C)

Benefited Receptor	2032 Predicted Noise Level Without Mitigation (dBA)	2032 Predicted Noise Level w/ 10 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)	2032 Predicted Noise Level w/ 12 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)
Receptor 82	67.9	60.2	-7.7	58.7	-9.2
Receptor 83	70.0	60.5	-9.5	59.3	-10.7
Receptor 87	62.4	58.5	-3.9	57.4	-5.0
Receptor 88	68.2	60.2	-8.0	58.8	-9.4
Receptor 89	75.0	70.0	-5.0	69.8	-5.2
Receptor 90	64.4	59.6	-4.8	58.1	-6.3
Receptor 91	71.9	70.4	-1.5	70.4	-1.5

Table 3-12: Noise Barrier Analysis for Barrier 2 (Alternative 1C)

Barrier	Total Length of Barrier (feet)	Height of Barrier (Feet)	Total Cost of Mitigation *	# of Benefited Receptors	Cost per Benefited Receptor
2	520	10	\$234,000	4	\$58,500
2	520	12	\$280,800	6	\$46,800

*The cost of materials is based on \$45 per square foot.

Chapter 3: Affected Environment, Impacts, And Mitigation

Barrier 3

Noise barrier 3 was modeled along the southbound right-of-way line east of Cedar Street. The barrier modeled was approximately 760 feet in length and ranged in height from eight feet to twelve feet. **Table 3-13** summarizes the noise levels with and without mitigation as well as the noise reduction provided by the mitigation measures. **Table 3-14** summarizes the noise barrier analyses.

A ten-foot and twelve-foot tall noise barrier meets the 5 dBA feasible noise reduction criteria and the reasonable noise reduction criteria of at least 7 dBA for at least one receptor (see **Table 3-13**). However, as shown in **Table 3-14**, the cost per benefited receptor exceeds WYDOT's cost reasonable criteria threshold of \$23,000. Therefore, a noise barrier would not be reasonable for the noise receptors in this area.

Table 3-13: Noise Mitigation Analysis for Barrier 3 (Alternative 1C)

Benefited Receptor	2032 Predicted Noise Level Without Mitigation (dBA)	2032 Predicted Noise Level w/ 10 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)	2032 Predicted Noise Level w/ 12 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)
Receptor 63	61.1	56.9	-4.2	56.3	-4.8
Receptor 69	63.4	57.4	-6.0	56.8	-6.6
Receptor 70 - historic"	63.1	58.1	-5.0	57.3	-5.8
Receptor 71 - historic"	62.7	59.3	-3.4	58.6	-4.1
Receptor 72"	63.3	61.7	-1.6	61.4	-1.9
Receptor 74"	66.1	57.8	-8.3	57.0	-9.1
Receptor 76"	69.8	59.1	-10.7	58.2	-11.6
Receptor 77 - historic"	66.6	60.2	-6.4	59.4	-7.2
Receptor 78 - historic"	65.6	60.2	-5.4	59.4	-6.2
Receptor 79 - historic"	64.7	60.6	-4.1	60.1	-4.6

Table 3-14: Noise Barrier Analysis for Barrier 3 (Alternative 1C)

Barrier	Total Length of Barrier (feet)	Height of Barrier (Feet)	Total Cost of Mitigation *	# of Benefited Receptors	Cost per Benefited Receptor
3	760	10	\$342,000	6	\$57,000
3	760	12	\$410,400	6	\$68,400

*The cost of materials is based on \$45 per square foot.



Alternative 1D (Preferred Alternative)

Two noise barriers were modeled within the right-of-way for the impacted receptors as a result of Alternative 1D.

Barrier 4

Noise barrier 4 was modeled along the northbound right-of-way line between Clark Street and Flint Street. The barrier modeled was approximately 800 feet in length and ranged in height from eight feet to ten feet. **Table 3-15** summarizes the noise levels with and without mitigation as well as the noise reduction provided by the mitigation measures.

Table 3-16 summarizes the noise barrier analyses.

An eight-foot and ten-foot tall noise barrier meets the 5 dBA feasible noise reduction criteria and the reasonable noise reduction criteria of at least 7 dBA for at least one receptor (see **Table 3-15**). However, as shown in **Table 3-16**, the cost for benefited receptor exceeds WYDOT's cost reasonable criteria threshold of \$23,000. Therefore, a noise barrier would not be reasonable for the noise receptors in this area.

Table 3-15: Noise Mitigation Analysis for Barrier 4 (Alternative 1D)

Benefited Receptor	2032 Predicted Noise Level Without Mitigation (dBA)	2032 Predicted Noise Level w/ 8 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)	2032 Predicted Noise Level w/ 10 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)
Receptor 86	63.8	58.9	-4.9	58.3	-5.5
Receptor 98	63.2	58.4	-4.8	57.7	-5.5
Receptor 105	63.8	58.5	-5.3	57.8	-6.0
Receptor 109	63.9	58.5	-5.4	57.8	-6.1
Receptor 114	64.4	58.7	-5.7	57.9	-6.5
Receptor 115	64.7	58.8	-5.9	58.1	-6.6
Receptor 121	66.5	59.1	-7.4	58.0	-8.5

Table 3-16: Noise Barrier Analysis for Barrier 4 (Alternative 1D)

Barrier	Total Length of Barrier (feet)	Height of Barrier (Feet)	Total Cost of Mitigation *	# of Benefited Receptors	Cost per Benefited Receptor
4	800	8	\$288,000	5	\$57,600
4	800	10	\$360,400	7	\$51,429

*The cost of materials is based on \$45 per square foot.

Barrier 5

Noise barrier 5 was modeled along the northbound right-of-way line east of Cedar Street and north of Harney Street. The barrier modeled was approximately 950 feet in length and ranged in height from twelve feet to sixteen feet. **Table 3-17** summarizes the noise levels with and without mitigation as well as the noise reduction provided by the mitigation measures. **Table 3-18** summarizes the noise barrier analyses.

A sixteen-foot tall noise barrier meets the 5 dBA feasible noise reduction criteria and the reasonable noise reduction criteria of at least 7 dBA for at least one receptor (see **Table 3-17**). However, as shown in **Table 3-18**, the cost per benefited receptor exceeds WYDOT's cost reasonable criteria threshold of \$23,000. Therefore, a noise barrier would not be

reasonable for the noise receptors in this area.

Conclusions and Recommendations

At this time, the modeled noise barriers meet the feasible criteria but do not meet the reasonable criteria. Noise abatement must be both feasible and reasonable therefore, barriers are not recommended for this project.

The Clark Street viaduct will be removed as a result of the new Harney Street viaduct. As a result, traffic volumes along Clark Street will be lower which will reduce future noise levels in this area. In addition, the three alternatives would be built on fill (berm), except for the bridge over the railroad which would be on-structure. Therefore, it is anticipated that the alignment sections on fill would act as a berm which would shield the

Table 3-17: Noise Mitigation Analysis for Barrier 5 (Alternative 1D)

Benefited Receptor	2032 Predicted Noise Level Without Mitigation (dBA)	2032 Predicted Noise Level w/ 8 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)	2032 Predicted Noise Level w/ 10 Foot Tall Barrier (dBA)	Noise Reduction (Decibel)
Receptor 1	59.3	54.6	-4.7	54.4	-4.9
Receptor 2"	58.2	54.1	-4.1	53.8	-4.4
Receptor 3"	59.5	54.0	-5.5	53.6	-5.9
Receptor 4"	60.9	54.4	-6.5	54.0	-6.9
Receptor 5"	62.7	55.8	-6.9	55.5	-7.2
Receptor 6"	61.5	55.8	-5.7	55.5	-6.0
Receptor 7"	65.5	64.2	-1.3	64.2	-1.3
Receptor 9"	57.0	55.3	-1.7	55.2	-1.8

Table 3-18: Noise Barrier Analysis for Barrier 5 (Alternative 1D)

Barrier	Total Length of Barrier (feet)	Height of Barrier (Feet)	Total Cost of Mitigation *	# of Benefited Receptors	Cost per Benefited Receptor
5	950	14	\$598,500	4	\$149,625
5	950	16	\$684,000	4	\$171,000

*The cost of materials is based on \$45 per square foot.



*Laramie River Bridge
looking upstream.*

nearby residents from roadway and freight noise.

If future substantial changes are made to design elements of the project from what has been analyzed for this project, the noise analysis will need to be re-assessed in order to evaluate the impact of those changes.

3.10 Water Quality and Floodplains

Existing Conditions of Water Quality and Floodplains

The Laramie River is located within the Study Area, west of Cedar Street. The river and its tributaries are located within the Upper North Platte Watershed (HUC #10180002) (EPA). In 2006, the Wyoming Water Development Commission completed a water plan for the Platte River Basin. The Platte River Basin encompasses nearly one-quarter of the land area of Wyoming and is used mostly for irrigation (Platte River Basin Plan, 2006).

The federal Clean Water Act (CWA) governs most aspects of water quality in the United States. Section 303(d) of the CWA requires states to prepare lists of waters for which technology-based effluent limitations (and other required controls) are not effective enough to comply with water quality standards. Impaired waters identified by the 303(d) list frequently have Total Maximum Daily Load (TMDL) regulations developed and implemented. TMDL refers to the allowable amount of a specific pollutant that may be found within a water body without exceeding a water quality standard. This portion of the Laramie River was not

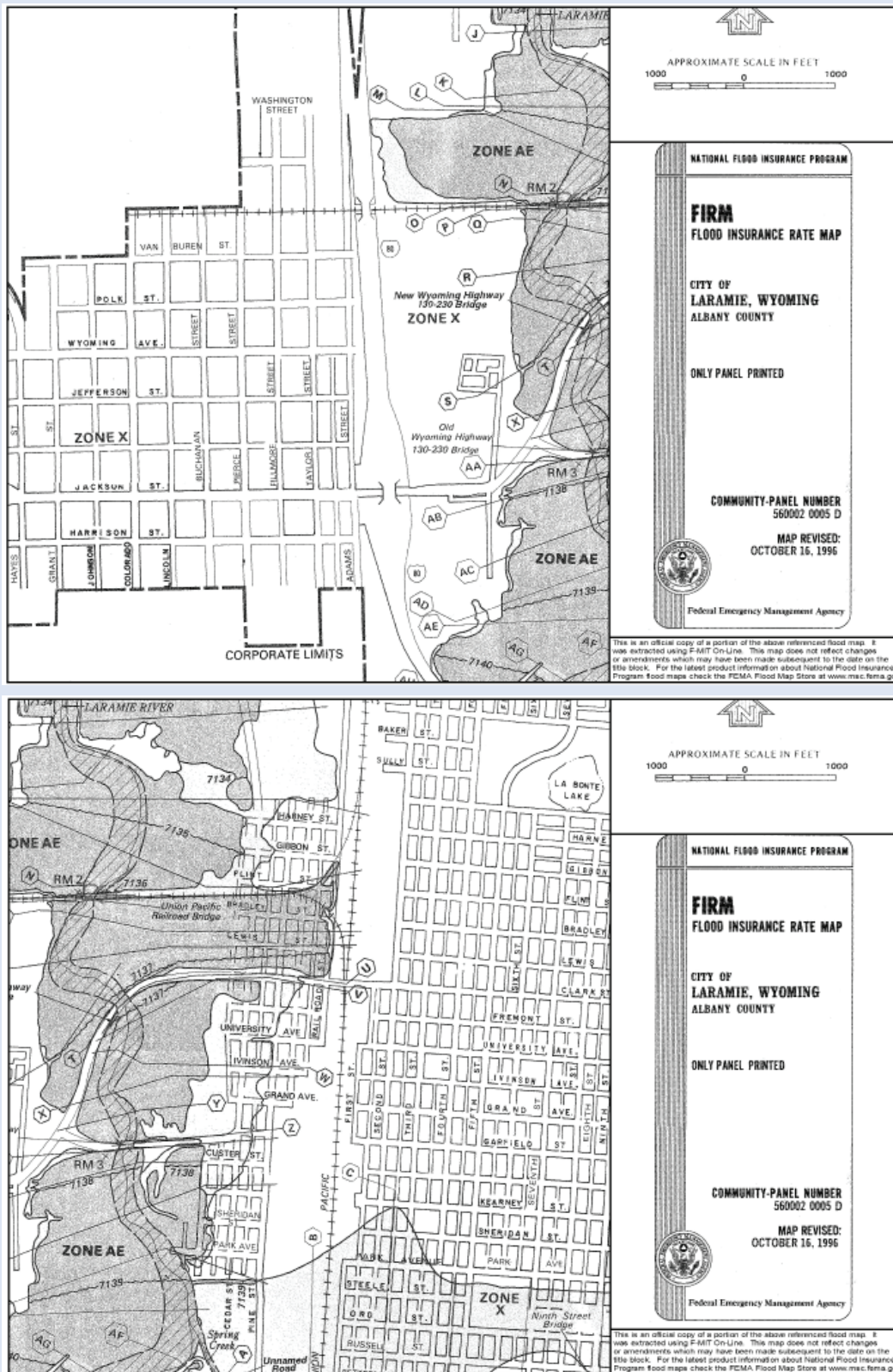
listed on the TMDL list in 2008. The City of Laramie is not required to adhere to the EPA Municipal Separate Storm Sewer System Program.

Flood Zone Maps from the Federal Emergency Management Agency (FEMA) were reviewed for this project. A flood zone is a geographic area that FEMA defines according to varying levels of flood risk. Each zone reflects the severity or type of flooding in the area. An area designated as floodplain Zone AE, which is defined as an area with a one percent annual chance of flooding and a 26 percent chance of flooding over 30 years, is located within the Study Area. This floodplain zone, referred to as the 100-year floodplain, is considered a High Risk Area by FEMA. See **Figure 3-12** for the FEMA Flood Zone Maps.

The Laramie River is the main water resource within the Study Area. The river supports floodplains, drinking water supplies, recreation, wildlife, aquatic life, and habitat and water quality. In general, these resources can be impacted by various human activities. A secondary water resource exists within the Study Area in a drainage ditch located west of Harney Street where it daylights from a culvert and flows approximately 1,200 feet emptying into the Laramie River.

Increasing volumes of storm water runoff entering the Laramie River has been identified as a concern by both the WYDEQ and the City of Laramie. The city is currently acquiring equipment/ infrastructure to address these concerns along with identifying opportunities to reduce storm water runoff (e.g., mini-

Figure 3-12: FEMA Floodplains Maps





mizing acreage of impervious surface areas).

Water Quality Impacts

No-Build Alternative: The No-Build Alternative would result in no new direct impacts to water resources within the Study Area. There would be no increase in impervious surfaces in the Study Area; therefore there would not be an increase in stormwater runoff.

Impacts Common to All Build Alternatives: Potential impacts can occur from construction of the viaduct, encroachment on existing floodplains, and overall increases in roadway runoff. From the addition of impervious surfaces associated with the new roadway and viaduct. However, approximately 0.30 acre of impervious surface, regardless of the alternative, will be removed, with the removal of the Clark Street viaduct.

Stormwater discharges are generated by runoff from land and impervious areas such as paved roads, parking lots, driveways, and building rooftops during precipitation events. Stormwater runoff often contains sediment and/or pollutants in quantities that could adversely affect water quality. A direct effect of stormwater runoff into receiving waters is the increase in turbidity and the concentration of suspended solids.

Road improvements associated with all Build Alternatives would result in impacts to water resources due to an increase in impervious surface area. Although these impacts are relative to the amount of new impervious surface under each

Build Alternative they are similar among all Build Alternatives. In addition short-term impacts could include increases in sediment levels into the river during construction.

Alternative 1A: This alternative would result in a net increase of 9.47 acres of impervious surface. Resulting in additional runoff to the Laramie River and potential degradation of the Laramie River water quality.

Development within the 100-year floodplain increases the risk of flooding downstream and triggers a requirement for a floodplain development permit. Approximately 5.85 acres of encroachment into the 100-year floodplain would occur under Alternative 1A.

Alternative 1C: This alternative would result in a net increase of 8.57 acres of impervious surface. Resulting in additional runoff to the Laramie River and potential degradation of the Laramie River water quality.

Development within the 100-year floodplain increases the risk of flooding downstream and triggers a requirement for a floodplain development permit. Approximately 7.73 acres of encroachment into the 100-year floodplain would occur under Alternative 1C.

Alternative 1D (Preferred Alternative): This alternative would result in a net increase of 9.88 acres of impervious surface. Resulting in additional runoff to the Laramie River and potential degradation of the Laramie River water quality.

Acres of additional impervious areas for each of the build alternatives are:

Alternative 1A: 9.47

Alternative 1C: 8.57

Alternative 1D: 9.88

Floodplain encroachment for each build alternative is:

**Alternative 1A:
5.85 acres**

**Alternative 1C:
7.73 acres**

**Alternative 1D:
8.85 acres**

Development within the 100-year floodplain increases the risk of flooding downstream and triggers a requirement for a floodplain development permit. Approximately 8.85 acres of encroachment into the 100-year floodplain would occur under Alternative 1D. Alternative 1D would also require an extension of the existing culvert located at the west end of Harney Street that carries water beneath the West Side Neighborhood. The culvert currently conveys stormwater runoff from the east to the Laramie River. Construction of this alternative would result in temporary impacts to this drainage through increased turbidity and sedimentation.

Mitigation for Water Resources Impacts

Construction, operational and maintenance BMPs will include both non-structural and structural erosion control measures as needed along the project corridor right-of-way, including stream crossings. These mitigation measures will be detailed in design following selection of the Preferred Alternative. These will address stormwater retention, detention, or filtration facilities to reduce water quality impacts to receiving waters and meet local and EPA requirements for reducing the discharge of pollutants into waters of the U.S.

3.11 Wetlands and Waters of the United States

A Wetlands and Waters of the U.S. Report was prepared for this project on August 18, 2010 by Hydro Logic, LLC. The USACE is authorized under Section

404 of the CWA to regulate the placement of dredged and fill material into wetlands and other waters of the United States. The applicable nationwide permit will be obtained prior to construction.

Existing Conditions of Wetlands and Waters of the U.S.

Three sites of potential wetlands were encountered along the corridors, two of which were determined to be wetland areas and a water of the U.S. Site 1 was determined to not be a wetland. Site 2 is located along a drainage ditch that daylights west of Harney Street. This site consists of an isolated, seasonally flooded wet meadow with wetland pockets in the depression, a drainage ditch determined to be a Water of the U.S., and fringe wetland along the banks of the ditch. Site 3 is located at the Laramie River. This site consists of a wet meadow, shallow marsh, shrub swampland and a Water of the U.S. of the Laramie River and along its banks (see **Figure 3-13**).

Impacts to Wetlands and Waters of the U.S.

No-Build Alternative: Under the No-Build Alternative there would be no impacts to any wetlands or Waters of the U.S.

Impacts Common to All Build Alternatives: Under the Build Alternatives approximately 0.2 acre of wetlands associated with the Laramie River Bridge are likely to be permanently impacted.

Alternative 1A: No additional impacts to wetlands or Waters of the U.S. are expected.



Laramie River Bridge looking upstream.



Alternative 1C: No additional impacts to wetlands or Waters of the U.S. are expected.

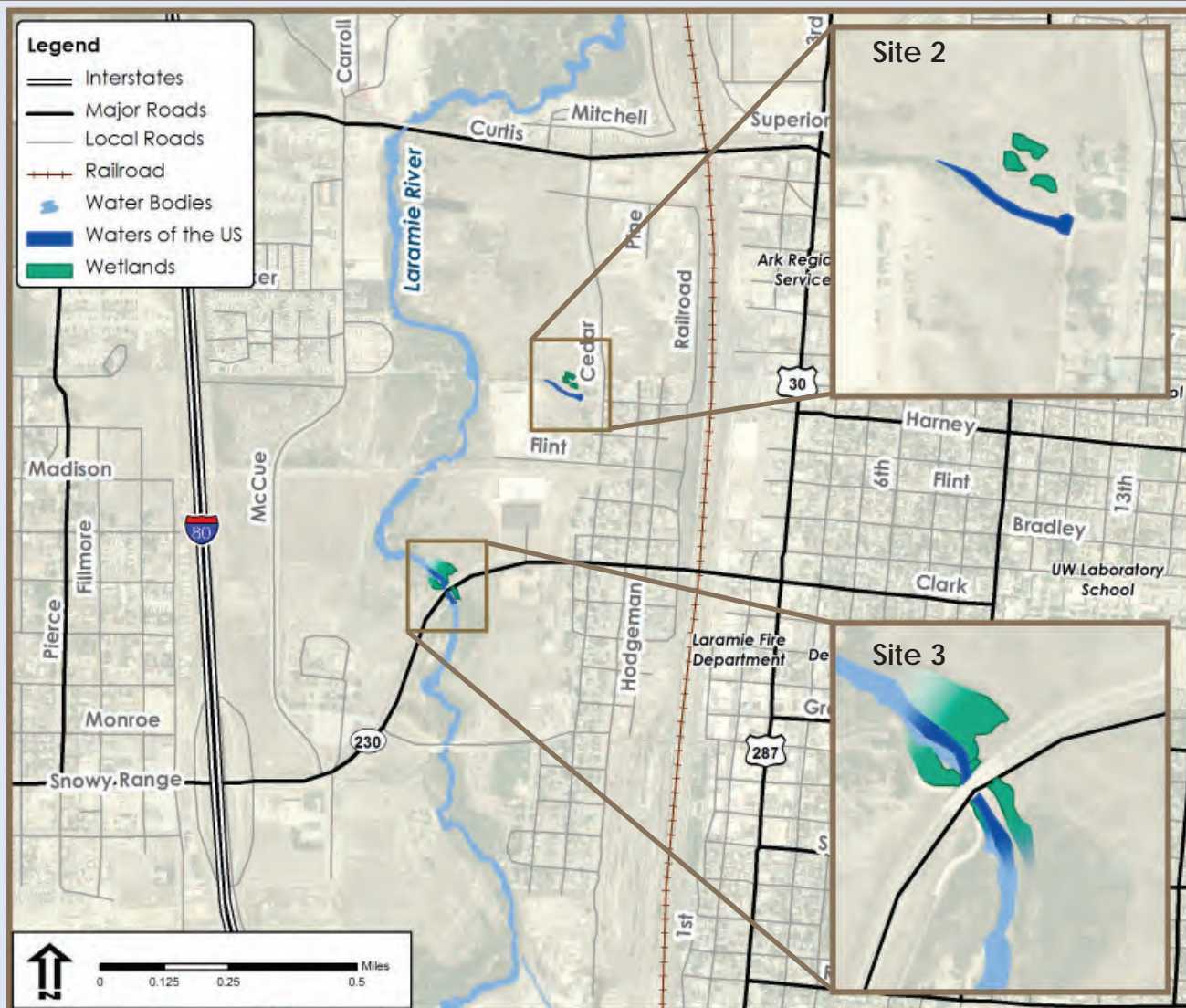
Alternative 1D (Preferred Alternative): Under this alternative an additional 0.12 acre of wetlands or Waters of the U.S. are expected to be impacted. These wetlands are associated with an existing drainage ditch located west of Harney Street. The alignment of Alternative 1D

would cross the drainage ditch at this location requiring an extension of the existing culvert carrying water from beneath Harney Street.

Mitigation for Wetland Impacts

If necessary, mitigation of impacts to the wetlands and Waters of the U.S. are expected to consist of on-site mitigation or be incorporated into the McCue Street Mitigation Area located north of

Figure 3-13: Wetlands and Waters of the U.S.



the Wyoming Territorial Prison, adjacent to and influenced by the Laramie River.

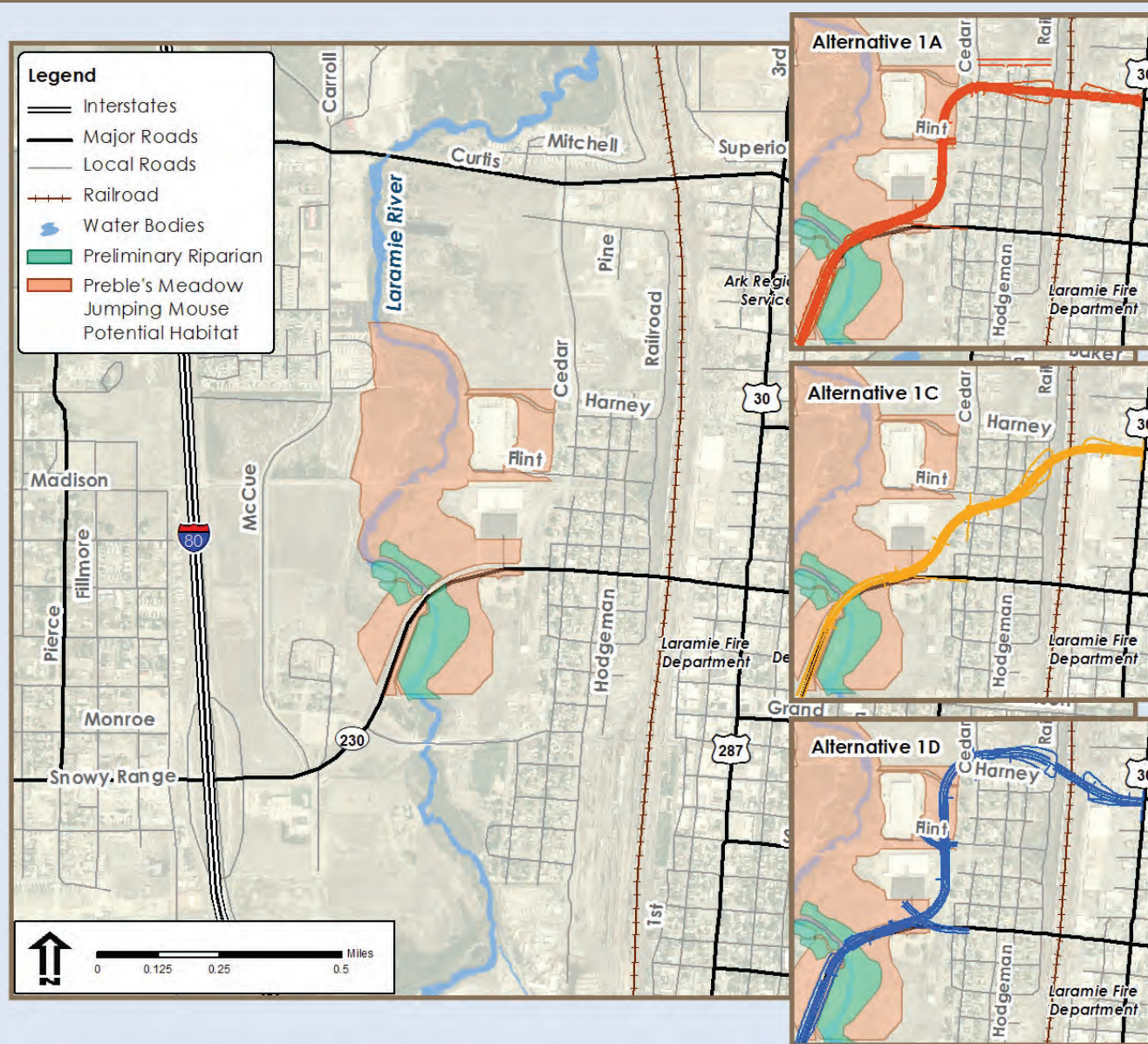
3.12 Threatened And Endangered Species

Federal or state listed threatened, endangered, or sensitive species potentially inhabiting the Study Area includes the federally-listed threatened Preble's

Meadow Jumping Mouse (PMJM). Potentially suitable habitat for this species consists of riparian areas and adjacent uplands in the Laramie River floodplain (see Figure 3-14).

This project is currently under Section 7 formal consultation with the U.S. Fish & Wildlife Service (USFWS) for PMJM as part of an amended Programmatic

Figure 3-14: Threatened and Endangered Species





Preble's Meadow Jumping Mouse

Impact to potential Preble's Meadow Jumping Mouse habitat is:

Alternative 1A:
3.5 acres

Alternative 1C:
2 acres

Alternative 1D:
4 acres

Biological Assessment. Consultation is anticipated to conclude September 2012 with a Programmatic Biological Opinion (PBO) from the USFWS. The PBO will include terms and conditions of mitigation for effects to PMJM.

During construction, volumes of water (greater than 0.1 acre-foot/year) will be withdrawn from the river for use in dust abatement and grading under all Build Alternatives. Consultation with the State Engineer's Office for Platte River Basin water depletions will be in accordance with Wyoming's Depletions Plan under the Platte River Recovery Implementation Program, that addresses downstream Platte River listed species.

Impacts Common to All Build Alternatives: All three build alternatives would equally impact riparian and adjacent uplands at the Laramie River Bridge crossing.

Alternative 1A: This alternative would not affect riparian areas and adjacent uplands in the Laramie River floodplain other than at the Laramie River bridge crossing. This alternative would impact approximately 3.5 acres of potential PMJM habitat.

Alternative 1C: This alternative would not affect riparian areas and adjacent uplands in the Laramie River floodplain other than at the Laramie River bridge crossing. This alternative would impact approximately 2 acres of potential PMJM habitat.

Alternative 1D (Preferred Alternative): In addition to affecting riparian areas and adjacent uplands associated with

the Laramie River bridge crossing, this alternative would impact riparian and upland habitat that has nexus with the Laramie River beginning near the Harney Street and Cedar Street intersections. This area is potentially suitable PMJM habitat. This alternative would impact approximately 4 acres of potential PMJM habitat.

Mitigation for Threatened and Endangered Species:

Pre-construction habitat assessments for PMJM will be conducted where appropriate.

3.13 Visual Resources

According to the *City of Laramie Comprehensive Plan (2007)* (henceforth referred to as *Laramie Comprehensive Plan*), protection and preservation of visually aesthetic resources is a high priority in the City of Laramie. Through public involvement efforts associated with the *Laramie Comprehensive Plan*, the City found that residents are proud of the western character and small-town feel of Laramie. They understand that the City is growing, but they want to manage growth in a way that still preserves the community character.

Physical elements of a landscape form visual patterns that can strongly influence a person's response to that landscape. These elements include landform and vegetation, water and wildlife features, and man-made modifications, such as residential and commercial development. Foreground landscape units are those immediately visible and define the local character of the area.

The foreground is generally defined as the area within 0-0.5 mile. The middle-ground is generally defined as 0.5 mile to 4 miles, and background views are generally 4 miles or greater.

Existing Conditions

The existing landscape within the Study Area is comprised of residential, industrial, and commercial land uses. Land uses immediately west of the UPRR corridor tend to be residential, while land uses immediately east of the railroad tracks are more commercial.

West of the railroad tracks, foreground views from the neighborhood streets are mostly composed of older, single-family homes in a medium-density established neighborhood. Those residential streets that run perpendicular to the Clark Street viaduct have views of the viaduct at different heights. For example, looking south along Pine Street, the viaduct stands about five to ten feet high.

Looking north from Harney Street, there are foreground and middleground views of open grasslands and of remnants of pressure stills from the abandoned British Petroleum/Amoco refinery that display evidence of vagrancy and graffiti.

Views from within the West Side Neighborhood to the east include the UPRR corridor, while views to the west comprise industrial (warehouse) land uses. The Laramie, Hahn's Peak & Pacific Railroad spur exists just south of Flint Street.

East of the UPRR corridor are foreground views of commercial businesses such as gas stations and restaurants. The

Clark Street viaduct (looking west) has commercial businesses flanked on either side.

West of the Laramie River, land uses are comprised of open lands, industrial and residential. The Wyoming Territorial Prison is located just west of the river in the southern part of the Study Area. Within this area the landscape captures many of the elements that are valued for their "western" characteristics. These include foreground views of the historic structures of the prison, open stretches of western grasslands, the heavily vegetated Laramie River corridor in the middle-ground, and occasional background views of the Medicine Bow Mountains.

Visual Impacts

Visual impacts of the three Build Alternatives were determined by using existing visual character features documented in photographs, field visits and assessing how the elements associated with the alternatives would affect those conditions. The impacts are categorized as those common to all alternatives, and those unique to specific alternatives. The following views were considered as the existing visual resources to determine the affect of the proposed project for each of the alternatives:

1. Views within the neighborhood with regard to the natural environment; land, water, and wildlife.
2. Views within the neighborhood of cultural resource elements; buildings and structures.
3. Views within the neighborhood of existing transportation facilities.



View of the Laramie, Hahn's Peak & Pacific Railroad spur south of Flint Street.



- Views of a motorist traveling on the project corridors.



View of the Clark Street viaduct looking south along Pine Street.



View of the Clark Street viaduct looking west.

No-Build Alternative: The only improvements associated with the No-Build Alternative would include the required repairs and maintenance of the Clark Street viaduct as it continues to age. While there are minimal visual impacts associated with the No-Build Alternative, the continued deterioration of the bridge would be visible from adjacent areas.

Impacts Common to All Build Alternatives:

The visual impacts that are common to all Build Alternatives are from 1) the portion of the new viaduct that would extend from 3rd Street west over the railroad tracks, and 2) the removal of the existing viaduct on Clark Street.

The portion of the new viaduct that would extend over the railroad tracks would introduce a new structure and cause obstruction of views looking north or south along the railroad corridor. In addition, the bridge would create some shading at various times of the day.

Removal of the existing Clark Street viaduct would substantially improve views for residences located on either the north side (between Lewis Street and Clark Street) or on the south side (between Fremont Street and Clark Street) of the viaduct. These residents would have new views of neighbors (north and south of respective homes) which could improve visual conditions in the West Side Neighborhood.

Views for travelers on the proposed new Harney Street viaduct would be gener-

ally similar under all Build Alternatives. Westbound travelers on the new facility would approach the viaduct amid commercial land uses similar to those at the eastern end of the Clark Street facility. Once on the facility the views will be generally easterly with minor variations among each alternative. Under all alternatives, foreground views would be of the residential and industrial land uses of the West Side Neighborhood, middleground views would consist of the Laramie River corridor and surrounding open space, and background views would be of rolling open plains leading to the Medicine Bow Mountains.

Travelers heading east on the proposed facility would also experience a similar visual environment among all Build Alternatives as well as similar to the No-Build Alternative. From the new facility foreground and middleground views would be of the commercial and residential land uses of downtown Laramie.

West of the facility, all Build Alternatives would have travelers pass through a mixed visual environment of the older residential neighborhood and light industrial uses of the West Side Neighborhood until they reach the common junction with SH 230. However Alternative 1D would be a slightly more industrial visual atmosphere while Alternative 1C would be slightly more residential. Alternative 1A would split that difference. These differences are discussed below.

Alternative 1A: Visual impacts unique to Alternative 1A are associated with the elevated roadway that would reach ground level west of Pine Street, and

the new roadway alignment extending to the Rocky Mountain Forest Products facility and south past the Laramie Cold Storage Facility ending at an intersection with SH 230.

Views along Alternative 1A for travelers west of the viaduct include trees and vegetation typical of a residential urban setting in the foreground with a narrow view of the Laramie River riparian vegetation in the northwest background. The addition of the viaduct structure along Harney Street would introduce a new, raised alignment that would block foreground, midground and background views north and south across Harney Street for viewers within the West Side Neighborhood. Those residents that live north of Harney Street would likely experience a sense of isolation as a result of obstructed views to the south.

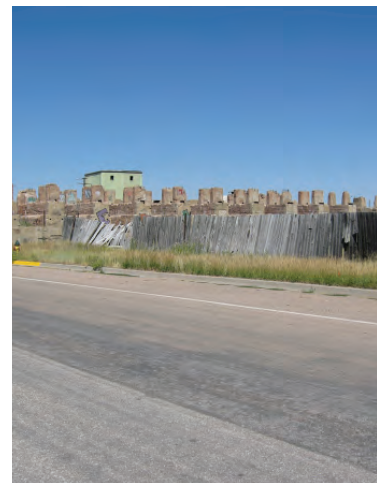
The new viaduct would be visible to a small number of homes and increased traffic would be a new visual element seen by residents on either side of the new roadway. Because this alternative follows an existing street on the northern periphery of the neighborhood, the introduction of new hardscape features along with increased traffic affects only a small portion of the neighborhood as a whole.

The section of the new alignment that would extend from Harney Street south to SH 230 would not impact visual resources. The current view to the west from the historic properties and residences located along the western edge of the neighborhood consists of commercial buildings in the foreground.

With Alternative 1A, these views would include the commercial buildings and the new roadway in the foreground; the new road would neither benefit nor impact these views. However, these homes that are located just east of the Rocky Mountain Forest Products facility and the Laramie Cold Storage Facility would be exposed to a new view of traffic.

Alternative 1C: Visual impacts unique to Alternative 1C are associated with an alignment that generally follows the Laramie, Hahn's Peak & Pacific Railroad spur alignment, is skewed southwest from the 3rd Street and Harney Street intersection, and extends over the UPRR railroad corridor and through the West Side Neighborhood. The viaduct in this alternative would consist of an elevated roadway that would reach ground level near Flint Street. Because this alternative builds an arterial roadway into an area never used for cars and trucks, hardscape features and increased traffic would alter the overall residential nature of the central portion of the West Side Neighborhood.

Properties along the Alternative 1C alignment currently experience views of the street system serving the community, a foreground view of an unmaintained the Laramie, Hahn's Peak & Pacific Railroad spur corridor, and a background view of the existing elevated Clark Street viaduct. With the construction of a new roadway and the addition of an elevated viaduct structure, the improvements would result in the obstruction of views for residences north and south of



Views of remnants of the abandoned British Petroleum/Amoco refinery pressure stills.



Because Alternative 1D is located at the northern edge of the West Side Neighborhood, its visual impacts would be less than the other two build alternatives. Views of the viaduct would be noticeable mostly from residential areas to the south, rather than from both sides.

the current the Laramie, Hahn's Peak & Pacific Railroad spur.

The section of roadway that would extend between the western edge of the neighborhood and the existing commercial buildings to the west would not impact visual resources. The current view to the west from these properties includes the commercial buildings, out buildings and trees in the foreground. With Alternative 1C, the new roadway would be added to the foreground.

Alternative 1D (Preferred Alternative):

Properties along the Alternative 1D alignment currently experience views of the street system serving the community, a foreground view of an unmaintained Laramie, Hahn's Peak & Pacific Railroad spur corridor, and a background view of the existing elevated Clark Street viaduct. Views of the extreme northern area of West Side Neighborhood also encompass the abandoned British Petroleum/Amoco refinery facility. The construction of a new roadway and the addition of an elevated viaduct structure would affect views north of the neighborhood. The proposed roadway would separate the residential community from land presently unused but dominated by the presence of the abandoned British Petroleum/Amoco refinery facility and no ongoing maintenance. To some residents this could be considered a positive visual impact.

The section of roadway that would extend between the western edge of the West Side Neighborhood and the existing commercial buildings to the west would not impact visual resources.

The current view to the west from these properties includes the commercial buildings, out buildings and trees in the foreground. With Alternative 1D, these views would include the commercial buildings and the new roadway would be added to the foreground. Higher traffic volumes would result in a visual intrusion to residences in the north and western areas of the West Side Neighborhood.

Mitigation for Visual Impacts:

The following measures will be implemented to reduce impacts to the existing visual landscape:

- Choose wall colors and textures that will fit into the landscape visually and aesthetically by complementing the surrounding area to reduce visual impact to the community.
- Revegetate disturbed areas in a manner that is consistent with adjacent landscape features. Use native and indigenous species for revegetation.
- Where feasible, complete slope modifications in a manner that maintains or accentuates foreground views. Techniques could include creating pockets for native vegetation, using undulating finished grades, and applying erosion control measures.
- Design new structures to WYDOT standards with input from City of Laramie on aesthetics including pedestrian fence, color, and textures.

3.14 Cultural Resources

Existing Conditions

Most of the Study Area encompasses residential and industrial areas that are over 50 years in age and played an important role in the history of Laramie. All three alternatives pass through or around the West Side Neighborhood, which was platted in 1875 and is one of the oldest neighborhoods in the City of Laramie. The West Side Neighborhood has always served as the working class neighborhood of Laramie for residents employed by the Union Pacific Railroad and Laramie, Hahn's Peak & Pacific Railroad, the Midwest and Standard Oil Refinery and other former businesses and industries west of the UPRR. The West Side Neighborhood has always been the immigrant neighborhood of Laramie, beginning with Swedes and Germans in the late 19th century and continuing into the mid-20th century with the establishment of Laramie's Hispanic community. Most residents could simply walk to work. Historically, the West Side Neighborhood was self-sufficient, with its own commercial district, churches and school. Access to downtown Laramie once consisted of a bridge over the UPRR on University Avenue, which was replaced by the Clark Street viaduct in 1963, and a steel truss footbridge over the UPRR on Garfield Street. Most of the homes in the neighborhood are over 50 years of age and consist of modest examples of various architectural styles or the manufactured vernacular buildings. Several buildings in the neighborhood are already listed on or recommended eligible to the National Register of Historic Places (NRHP). These include the

Garfield Street footbridge, the Lincoln Community Center, and what is now the Emmanuel Apostolic Church.

In addition, the Laramie, Hahn's Peak & Pacific Railroad was founded in 1901 to access the mines in the Centennial area and near Coalmont, Colorado. The Laramie, Hahn's Peak & Pacific Railroad has been determined eligible to the NRHP and travels through the West Side Neighborhood. At least one of the original buildings associated with the Laramie, Hahn's Peak & Pacific Railroad remains standing in the West Side Neighborhood. The Midwest and Standard Oil Refinery was constructed in 1920 and borders the north side of the West Side Neighborhood.

Section 106

Section 106 of the National Historic Preservation Act requires that federal agencies take into account any effects a proposed action may have on historic properties. Historic properties are defined as those cultural resources that have been listed on or determined eligible to the NRHP. This is accomplished through the Section 106 compliance process, which consists of the following steps:

- Identify consulting parties
- Establish an APE
- Identify and evaluate historic properties located within the APE established for the undertaking.
- Assess effects to historic properties

Consult with the State Historic Preservation Officer (SHPO), and as appropriate, the Advisory Council on Historic Pres-



*Wyoming Territorial Prison,
Laramie 2009*



ervation (ACHP) and other interested parties to resolve adverse effects.

Consulting Parties. By definition, the FHWA (lead federal agency), WYDOT (project proponent), and Wyoming SHPO are all consulting parties. On April 30, 2012, the ACHP provided their intent to participate in the consultation process. In addition, on February 2, 2012, the following parties were invited to participate in consultation:

- The City of Laramie
- The Albany County Historic Preservation Board
- The Laramie Railroad Depot Association
- Tracks Across Wyoming
- The Alliance for Historic Wyoming
- The Westside League of Neighbors
- The National Trust for Historic Preservation
- The Wyoming Colorado (WYCOLO) railroad

All but the National Trust for Historic Preservation and the WYCOLO Railroad, accepted the invitation to participate. The Northern Arapaho Tribe and the Eastern Shoshone Tribe were consulted during scoping but did not indicate interest in the project. Although the West Side Neighborhood was organized subsequent to the February 2, 2012 invitation, they became participants in the consultation.

Identification of Historic Properties. In consultation with the Wyoming SHPO

in 2009, the APE was identified as either side of Harney Street from 3rd Street over the UPRR to the Laramie River, the entire West Side Neighborhood north of the Clark Street viaduct, and the area immediately north of the West Side Neighborhood (**Figure 3-15**).

In October 2008, late-2009 and again in January and February of 2010, field surveys were conducted by Rosenberg Historical Consultants for analysis of historic resources with the Harney Street viaduct APE. The objective of these cultural resource surveys was to identify historic properties over 50 years of age and the potential for any historic districts within the APE. All properties surveyed were evaluated for significance and eligibility to the NRHP. There are four criteria used to determine if a property is eligible to the NRHP:

- **Criterion A.** Association with events that have made a significant contribution to broad patterns of history;
- **Criterion B.** Association with lives of persons significance in the past;
- **Criterion C.** Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, that possess high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- **Criterion D.** Has yielded, or may be likely to yield, information important in prehistory.

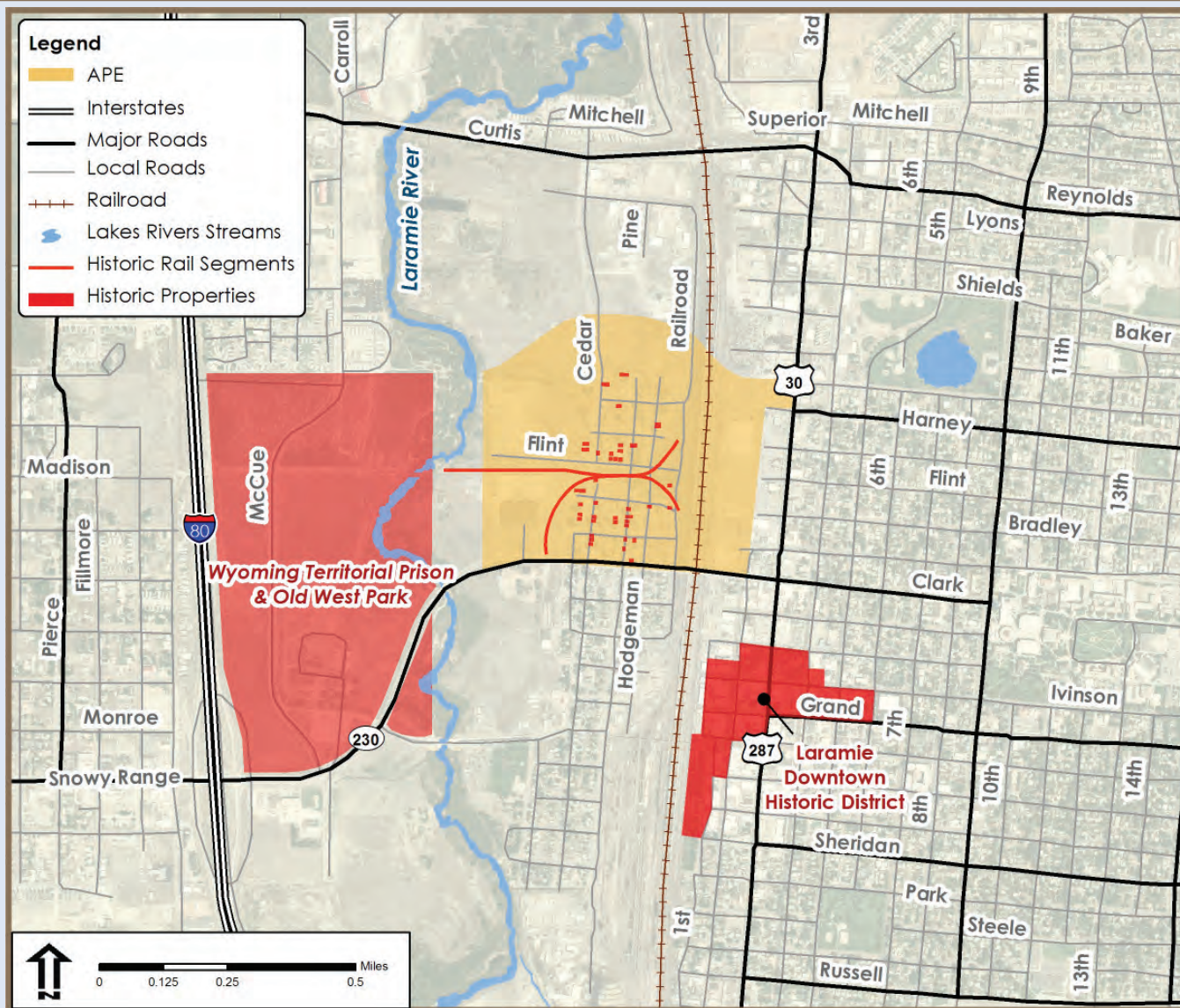
In addition, properties must retain sufficient integrity of setting, location,

design, materials, workmanship, feeling and association with the period of historic significance to convey those historic associations.

The survey indicated that there are a number of historic properties within the APE, including the Laramie, Hahn's Peak & Pacific Railroad and numerous residences within the West Side Neighborhood north of the Clark Street viaduct

(Figure 3-15). The survey included an evaluation of the Midwest and Standard Oil Company and the Clark Street viaduct. Both were determined not eligible to the NRHP with concurrence from the SHPO on January 19, 2010 and August 18, 2010. The Wyoming Territorial Prison was not investigated as part of this study. It is already listed on the NRHP and would not be affected by any of the alternatives. The Union Pa-

Figure 3-15: NHRP Eligible and Listed Sites





cific Railroad was also not investigated as part of this study. It has already been determined eligible to the NRHP and would not be affected by any of the alternatives.

Five segments of the Laramie, Hahn's Peak & Pacific Railroad, all comprising what is locally known as the wye, occur within the APE and were determined to contribute to the overall historic significance of the railroad. All retain track, ties, ballast, hand switches, crossing arms and other appurtenances associated with a functioning railroad. The northeast and southeast arms of the wye join the UPRR mainline tracks. The southwest arm leads down to the former depot (razed in 1951 by UPRR) and the old engine house south of Clark Street.

A total of 158 residential buildings in the West Side Neighborhood were inventoried. The majority of these houses were built in the 1920s and 1930s, correlating with the construction and operation of the Midwest and Standard Oil Refinery. Nearly 14 percent of the residences north of Clark Street have been built or moved in since 1962 and are less than

50 years old. Many other buildings have been extensively modified through additions and major architectural changes. Only 32 buildings (**Figure 3-15**) were determined eligible to the NRHP, with concurrence from SHPO on August 18, 2010. At the same time, SHPO also concurred with the FHWA/WYDOT determination that there was insufficient integrity of setting, location, design, materials, workmanship, feeling and association with the period of historic significance to warrant designation of the West Side Neighborhood north of Clark Street as a historic district.

After completion of and unrelated to the WYDOT sponsored surveys, the Albany County Historic Preservation Board commissioned a survey of the West Side Neighborhood south of the Clark Street viaduct by the American Studies Program at the University of Wyoming. This portion of the neighborhood is somewhat older than the north side and also contains far fewer modern buildings. The report (submitted to SHPO in September, 2011) recommended that the entire West Side Neighborhood could be considered eligible to the NRHP as a historic district. SHPO has not yet commented or concurred on that recommendation and is uncertain if district boundaries could be extended to the entire West Side Neighborhood, due to lack of historic integrity north of the Clark Street viaduct. Potential boundaries have yet to be determined but would likely not extend any more than portions of the blocks immediately north of the Clark Street viaduct. The SHPO is currently working with the Albany County Historic Preservation Board to explore



Wyoming Territorial Prison, Laramie 1872

the possibility of a locally designated historic district on the West Side Neighborhood which would include those portions of the neighborhood not meeting National Register district criteria.

Cultural Resource Impacts

Table 3-19 provides a summary of adverse effects for each build alternative.

No-Build Alternative: The only improvements associated with the No-Build Alternative would include the required repairs and maintenance of the Clark Street viaduct as it continues to age. No impacts to historic properties adjacent to the bridge would occur as a result of these activities.

Impacts Common to All Build Alternatives: The Clark Street viaduct is essentially a modern and divisive intrusion over and into the West Side Neighborhood. Removal of the bridge would not affect any of the qualities which confer historic significance to the neighborhood as a whole or to individually eligible historic properties on either side of the existing bridge. In fact, removal of the viaduct would somewhat restore the neighborhood to its pre-1963 historic

condition. The SHPO concurred on February 11, 2011 that there would no be effects to any properties adjacent to the Clark Street viaduct.

All build alternatives also have adverse effects to the Laramie, Hahn's Peak & Pacific Railroad. However, the magnitude of adverse effects varies between the three building alternatives. Adverse effects of each build alternative are discussed below.

Alternative 1A: Alternative 1A would remove approximately 100 ft of the Laramie, Hahn's Peak & Pacific Railroad mainline at the crossing point and 600 ft of the southwest arm of the wye. All mainline track, ballast, grade, and appurtenances within the APE would be removed (Note: at-grade or grade separated crossing does not meet Purpose and Need). This impact is considered an adverse effect due to loss of integrity of setting, design, materials, workmanship, feeling, and association with the period of historic significance. Remaining portions of the wye outside the APE would still be considered contributing to the overall significance of the Laramie, Hahn's Peak & Pacific Railroad.

Table 3-19: Summary of Adverse Effect Determinations By Alternative

	No-Build	Alternative 1A	Alternative 1C	Alternative 1D
	No Adverse Effects	<ul style="list-style-type: none"> Site 48AB619, Laramie, Hahn's Peak & Pacific Railroad (direct impact to 700 ft of rail line) Site 48AB2297 (indirect impact) 	<ul style="list-style-type: none"> Site 48AB619, Laramie, Hahn's Peak & Pacific Railroad (direct impact to 2,300 ft of rail line) Sites 48AB2230, 48AB2232, 48AB2235, 48AB2238, 48AB2277, 48AB2306, 48AB2307 (indirect impacts) Site 48AB2279 (direct impact) 	<ul style="list-style-type: none"> Site 48AB619, Laramie, Hahn's Peak & Pacific Railroad (direct impact to 400 ft of rail line)
Total	0	2	9	1



Alternative 1A would also indirectly affect an NRHP eligible residence on Clark Street just north of Harney Street. This home would experience increased traffic at the signalized intersection of Cedar Street and Harney Street, resulting in an increase of 6.1 dBA from existing conditions. This is considered an adverse effect due to loss of integrity of setting, feeling and association with the period of historic significance.

The SHPO concurred with these determinations of adverse effect on February 2, 2011.

Alternative 1A would not affect a potential National Register district on the south side of the Clark Street viaduct. This alternative could potentially affect the boundaries of a locally designated district.

Alternative 1C: This alternative would result in removal of the northeast and most of the southwest arm's of the wye and several hundred feet of the mainline, totalling approximately 2300 ft of direct impacts to the railroad. Construction of this alternative would leave only an isolated remnant of the southeast arm, with connections to the mainline severed. The track, ballast, and grade, as well as all hand switches, crossing arms and other appurtenances would be removed to allow for construction and maintenance of the roadway.

This alternative would remove all aspects of how the wye functioned and how the Laramie, Hahn's Peak & Pacific Railroad functioned together. The remaining portion of the southeast arm of the wye would be rendered non-con-

tributing. This alternative would result in an adverse effect due to loss of location, setting, design, materials, workmanship, feeling and association with the period of historic significance.

Additionally, one other NRHP eligible property, a residence on North Cedar Street (48AB2279), would be directly impacted. Site 48AB2279 would be acquired and demolished in support of construction. This would be an adverse effect.

Seven other NRHP eligible residences on either side of the new roadway would be indirectly impacted. These include 48AB2230, 48AB2232, 48AB2235, 48AB22377, 48AB22, 48AB2306, and 48AB2307. The neighborhood, including these residences, all developed around the Laramie, Hahn's Peak & Pacific Railroad. The eligible residences all retain integrity of setting, location, design, materials, workmanship, feeling, and association with the period of historic significance.

Construction of Alternative 1C would result in removal of the railroad and one other adjacent historic property, removal of several non-eligible homes and mature vegetation, changes to the street layout and access. These would be replaced by a five-lane urban, arterial roadway with the introduction of high volumes of automobile and truck traffic into the neighborhood, signalized intersections at Cedar Street and possibly Bradley Street. The new bridge, associated road embankments, and other elevated features would be visible from several of the homes. This would result

in loss of integrity of setting, feeling, and association with the period of historic significance for these homes and is an adverse effect.

The SHPO concurred with these determinations of adverse effect on February 2, 2011.

Alternative 1C would not affect a National Register district on the south side of Clark Street. It would have a major effect on a locally designated historic district, possibly precluding designation of such a district north of and immediately adjacent to the new roadway.

Alternative 1D: No residential historic properties within the West Side Neighborhood would be adversely affected by this alternative. Visibility of the proposed bridge and associated features from historic properties north of Clark Street would be minimal, mostly screened by vegetation and other structures. All historic properties fall outside the 66 dBA threshold for noise impacts.

Alternative 1D would remove 100 ft of the mainline of the Laramie, Hahn's Peak & Pacific Railroad and about 400 ft of the southwest arm of the wye. This would be a direct impact due to removal of rail, ties, ballast, grade and appurtenances within the APE. This would be considered an adverse effect due to loss of integrity of design, materials, workmanship, feeling and association within the APE. Remaining portions of the wye outside the APE would still be considered contributing to the overall significance of the Laramie, Hahn's Peak & Pacific Railroad.

The SHPO concurred with this determination of adverse effect on February 2, 2011.

Alternative 1D would not affect a National Register district on the south side of the Clark Street viaduct and would have minimal effects on a locally designated historic district encompassing the entire West Side Neighborhood.

Mitigation of Cultural Resources:

Throughout the spring of 2012, the interested parties met to first discuss potential mitigation strategies for all alternatives. As of July, 2012, meetings were held on the following dates:

- February 21, 2012
- February 29, 2012
- March 14, 2012
- April 12, 2012
- July 11, 2012

Meeting minutes are in Appendix C. All parties agreed that, due to the much greater magnitude of impacts from Alternative 1C, mitigation would be extremely difficult and costly. Ideas discussed for Alternative 1C included detailed documentation of the wye complex, acquisition of land and development of an interpretive park, acquisition and rehabilitation of other railroad related buildings, and establishment of a permanent trust fund for preservation of railroad related buildings in Laramie. Ideas for mitigation of impacts to residential historic properties included detailed documentation of the neighborhood, setting and individual historic



properties on either side of the wye, establishment of a trust fund for preservation of homes within the West Side Neighborhood, walking tours, museum exhibits, oral history projects, and preservation workshops. Mitigation strategies that depended on acquisition of either lands or buildings outside the APE for the project were considered extremely risky because owners may be unwilling to sell and WYDOT does not have the authority to condemn for property outside the footprint of the new roadway.

Interested parties then focused on mitigation strategies suitable for Alternative 1D, as it has the fewest adverse effects. Mitigation measures for Alternative 1D agreed upon by the parties include large format photography for the wye complex from the UPRR to the Laramie River Bridge and south of the Snowy Range Road (SH 230); funding for a diorama of the wye complex to be displayed at the Laramie Railroad Depot Museum, development of a portable museum exhibit, development of a railroad walking tour, funding for oral histories of railroad workers, and development of a public exhibit focused on those oral histories. A draft Memorandum of Agreement (MOA) for mitigation of adverse effects for Alternative 1D is included in Appendix C.

3.15 Hazardous Materials

Hazardous materials could be encountered during the construction of a transportation project. Therefore, it is important to identify properties that may contain contamination prior to right-of-way acquisition and construc-

tion. Hazardous materials are defined as any waste product that is considered flammable, corrosive, reactive, or toxic. Hazardous materials can be found in various forms and can originate from a variety of sources. Examples of potential sites that may contain hazardous waste include landfills, service stations, industrial areas, railroad corridors, and mine sites. When planning and developing a transportation project, it is important to be aware of known hazardous waste sites so they can be avoided or their impacts minimized.

Existing Conditions

An assessment was performed to screen the Study Area for sites with known or suspected recognized environmental conditions (RECs). RECs are the presence or likely presence of hazardous substances, hazardous materials, or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any such substances into structures on the property or into the ground, groundwater, or surface water of the property [American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments (ESAs): Phase I ESA].

The assessment included a review of existing land use, environmental regulatory records, historical aerial photos, topographic maps, and an on-site inspection.

The majority of the Study Area includes residential development surrounded by light industrial, commercial develop-

ment, and railroad right-of-way. Most of the light industrial and commercial development is located east of the Study Area and the railroad. In general, parcels with a history of industrial, commercial, and rail use have a higher likelihood of having RECs than residential property. Historical land use is taken into consideration when assigning risk to individual parcels. Historic aerial maps of the Study Area dated 1902, 1947, 1963, 1976, 1978, 1981, 1990, 1994, 2001, and 2006 were reviewed for this project. The Study Area has consisted of similar land uses observed today.

According to the Wyoming Oil and Gas Conservation Commission, there are no oil and gas wells located within the Study Area.

Environmental Data Resources, Inc. (EDR) maintains federal, state, and local regulatory databases for registered sites. A report was generated to locate potential RECs within 0.5 mile of the Study Area, centered approximately at the intersection of Cedar Street and Flint Street. Within the Study Area and the surrounding vicinity, 25 sites were found in EDR's search of available ("reasonably ascertainable") government records. Since EDR searches environmental databases with a search radius of up to one mile, many listed sites are a sufficient distance from the Study Area, and they are not considered RECs likely to impact the Alternatives (see **Figure 3-16**).

EDR listed 18 sites as "orphan sites" within the vicinity of the Study Area. The term "orphan sites" means that EDR

could not pinpoint the exact location of the sites with the listed address. A review of the listed addresses indicated that four of these sites appear to be located within ½ mile from the proposed project alternatives.

Hazardous Materials Impacts

No-Build Alternative: Under the No-Build Alternative there would be no ground disturbance or property acquisition, therefore, there would be no potential for disturbance to hazardous materials sites.

Impacts Common to All Build Alternatives: **Table 3-20** summarizes all of the sites in or near the Study Area that were listed in the EDR report, including the unmapped orphaned sites. **Table 3-21** shows the sites that are not listed in the EDR report, but are listed in the WYDEQ database. These sites were rated as a no risk or low, moderate, or high risk of impacting the Study Area. **Table 3-22** shows the sites with potential RECs.

After evaluating the likelihood that contamination from each of the listed and/or observed sites would impact the construction of the Build Alternatives, the list of sites of concern was reduced to three sites.

For the three potential REC sites near the Study Area, a file review of records maintained by the EPA and the WYDEQ were performed. The findings are summarized below:

- **EDR Map ID #3 – Wyoming Territorial Prison:** This facility is located at 975 Snowy Range Road. This site is listed

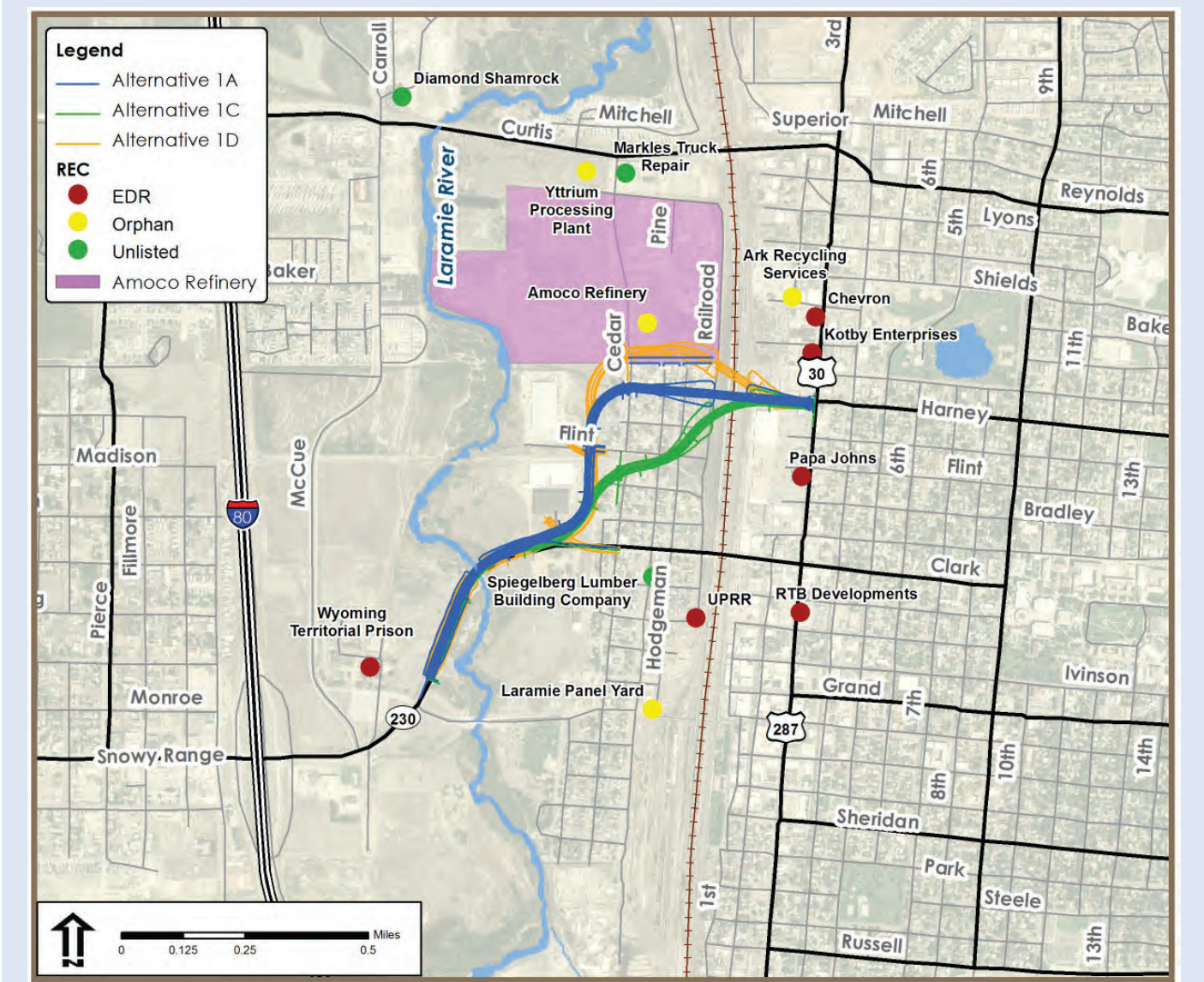


in the solid waste facility and landfill databases. It is an old cleanup site which is currently closed. The extent of contamination and remedial activities are unknown. This property is located approximately 575 feet west to southwest from the Study Area. Groundwater flow in this area is unknown. However, it is assumed to flow in an easterly direction toward the Study Area and Laramie

River. If contamination exists on this site, it has the potential to impact the Study Area via groundwater. Therefore, it is rated as a low risk to the Study Area.

- **EDR Map ID #A6 – Papa Johns:** This facility is located at 553 North 3rd Street. This site is listed in the leaking underground storage tank (LTANKS) database as having two closed tanks which were used to store

Figure 3-16: Potential Recognized Environmental Conditions (REC) Sites



Chapter 3: Affected Environment, Impacts, And Mitigation

Table 3-20: Summary of EDR Listed and Orphaned Sites

Map ID#	Site Name	Site Address	Data-base	Status	Risk to Alt 1A	Risk to Alt 1C	Risk to Alt 1D
Listed Sites							
4	UPRR	103 University (and railroad street)	SHWF	Enrolled in VRP; cleanup on-going; located approximately 1,100 feet south of Study Area; since this site is being cleaned up and is not located adjacent to the proposed improvements, this site is not likely to impact Study Area	None	None	None
D13	Kotby Enterprises	969 N 3rd	LTANKS	Unresolved; located approximately 450 feet north from Study Area; the topography of the area slopes WNW; not likely to impact Study Area	None	None	None
3	Wyoming Territorial Prison	975 Snowy Range Lane	SWF/LF	Old cleanup site; closed; unknown status; located approximately 575 feet west from Study Area; groundwater flow assumed to flow in an easterly direction toward the Study Area and Laramie River. Potential to impact Study Area	Low	Low	Low
A6	Papa Johns	553 N 3rd	LTANKS	Tanks removed; unresolved contaminated site; located approximately 700 feet south from Study Area; the topography of the area slopes WNW, towards the Study Area; potential to impact Study Area	Low	Low	Low
E18	RTB Developments	168 N 3rd	LTANKS	Tanks removed; unresolved contaminated site; located approximately ½ mile south from Study Area; not likely to impact	None	None	None
F20	Chevron	1059 N 3rd	LTANKS	Tanks removed; unresolved contaminated site; located approximately 850 feet north from Study Area; the topography of the area slopes WNW; not likely to impact Study Area	None	None	None

SHWF=Solid and Hazardous Waste Facility VRP=Voluntary Remediation Program LTANKS=Leaking Underground Storage Tank

SWF=Solid Waste Facility LF=Landfill

Source: EDR, 2010



Table 3-21: Summary of EDR Orphaned Sites (from WDEQ)

Map ID#	Site Name	Site Address	Data-base	Status	Risk to Alt 1A	Risk to Alt 1C	Risk to Alt 1D
Orphan Sites							
n/a	EPA Clean-up- Yttrium Processing Plant	Corner of Cedar and Curtis	SWF/LF, SHWF	Remediation activities complete; located approximately 1,900 feet north from Study Area	None	None	None
n/a	British Petroleum/Amoco Refinery/ Standard Oil Company	North of Harney and east and west of Cedar	SWF/LF, SHWF	Contamination from former refinery activities; remediation activities complete; groundwater below the surface flows in a WNW direction, away from the proposed improvements; However, partial property acquisition required as a result of Alt 1D.	None	None	Moderate
n/a	Ark Recycling Services	222 Baker	SWF/LF, SHWF	Active site; unknown status; located approximately 1,100 feet north from Study Area; topography of the area slopes WNW; not likely to impact Study Area	None	None	None
n/a	Laramie Panel Yard	Garfield and Hodge-man	LTANKS	Tanks removed; unresolved contaminated site; located approximately 1,700 feet south from Study Area; not likely to impact Study Area	None	None	None

SHWF=Solid and Hazardous Waste Facility VRP=Voluntary Remediation Program LTANKS=Leaking Underground Storage Tank
SWF=Solid Waste Facility LF=Landfill
Source: WYDEQ, 2010

Table 3-22: Summary of Unlisted Sites

Site Name	Site Address	Data-base	Status	Risk to Alt 1A	Risk to Alt 1C	Risk to Alt 1D
Unlisted Sites*						
Markles Truck Repair	1457 Cedar	Storage Tank	Site closed; no reported violations; located approximately 1,850 feet north from Study Area	None	None	None
Spiegelbert Lumber and Building Company	259 W Fremont	Storage Tank	Site closed; located approximately 525 feet east from Study Area; no reported violations; not likely to impact Study Area	None	None	None
Diamond Shamrock #4552	1952 Banner	Storage Tank	8 storage tanks currently in use; contaminated site with active tanks; resolved; located approximately 3,500 feet north from Study Area	None	None	None

*These sites were not listed in the EDR database search report, but are listed in the WYDEQ database.
UST=Underground Storage Tank
Source: WYDEQ, 2010

gasoline. This site used to operate as a service station and is listed as an unresolved contaminated site. The groundwater flow is assumed to flow west/northwest, towards the Study Area and Laramie River. If contamination exists on this site, it has the potential to impact the Study Area via groundwater. Therefore, it is rated as a low risk to the Study Area.

- **Orphan Site – British Petroleum/ Amoco Refinery:** This facility is bound by Yttrium Processing Plant to the north, Cedar Street to the east, Harney Street to the south, and the Laramie River to the west. The site also includes the area east of Cedar Street and north of Harney Street where remains of the old refinery building are located. The refinery was established in 1919 by Midwest Refining Company. In 1922, the Standard Oil Company built pressure stills next to the refinery to process gas oil which operated from 1922-1932. In 1984, the WYDEQ conducted a preliminary assessment. The British Petroleum/Amoco Company agreed to install monitoring wells to determine the extent of contamination and worked closely with the State of Wyoming and Federal agencies to cleanup the site. In 1986, a report was prepared documenting the results of the monitoring on site. The report concluded that there was known contamination to the soil and groundwater. According to EPA, this was the last known action taken on this site. At that time it was taken off of the Superfund list and archived. Nothing was found

on the site that would qualify it for the National Priority List. In addition, an oil exclusion act was passed by Congress that excluded oil sites from the Superfund and any cleanup of the site would not be paid for by Superfund. The EDR report states that no further action is required for this site. Today, there are concrete remains of pressure stills, tank firewalls, sumps, and brick and concrete debris concentrated at the south end of the site. On November 24, 2009, a WYDOT geologist conducted an investigation of the area where the Harney Street viaduct is proposed. Eighteen samples were collected from five wells and tested for the presence of benzene, toluene, ethyl-benzene, and xylene as well as gasoline range organics and diesel range organics. The results concluded contamination was present in all wells. Therefore, since contamination was found in the area of the Harney Street viaduct, this site was rated as a moderate risk for Alternative 1D.

Hazardous Materials Mitigation

Further investigation will be conducted at RECs where partial acquisitions of property or deep excavations are planned, which could include performance of a Phase I ESA and/or Phase II ESA. Due to known contamination in the area of the Harney Street viaduct for Alternative 1D, a Phase II ESA is recommended to determine the extent of contamination. Remedial activities will be required if the property is acquired



for Alternative 1D proposed improvements.

Further investigation is also recommended for RECs in areas where subsurface excavation is planned for the Alternatives, even if no acquisition of property is planned. Construction personnel will be trained to recognize signs of possible contamination in soil, such as odors and staining.

Also, Wyoming regulations require a formal asbestos inspection and abatement, if necessary, for any buildings or structures that would be demolished. The likely presence of lead-based paint should be factored into any plans for demolition and subsequent disposal.



Laramie River Greenbelt Upstream from Laramie River Bridge

3.16 Parks and Recreation

Existing Conditions

The City of Laramie has a well-developed park system with approximately fourteen city parks. The parks include large-scale facilities, community parks, and smaller individual parks. There are four parks that are located within the Study Area (**Table 3-23** and **Figure 3-17**).

Future park planning is addressed in Chapter 4 of the *Laramie Comprehensive Plan*. The Comprehensive Plan identifies a future park to be located at the former British Petroleum/Amoco Refinery site. Although not currently owned by the City of Laramie, this site is being examined as a potential new community park and open space land. This park would encompass all lands between the Laramie River, Cedar Street, Curtis Street and just north of Harney

Street. Additionally, a future bicycle and pedestrian trail connection is planned to utilize the new Harney Street viaduct. This new on-street trail would provide connections between the Laramie River Greenbelt, potential new trails within the former railroad right-of-way, and other on-street trails within the West Side Neighborhood.

The Wyoming Territorial Prison (located southwest of the proposed improvements) is a Wyoming State Park that is listed on the NRHP. Notorious outlaws like Butch Cassidy are known to have been held there. The Prison, a 190-acre facility, was built in 1872 and was restored in 1989 for tourism purposes.

The Laramie River Greenbelt, an asphalt-covered foot and bike path, crosses the Laramie River at the north end of the Study Area and continues south along the west bank to Garfield Street, where it crosses to the east side of the river. An area has been leveled as an informal parking lot for Greenbelt access.

Depot Park consists of a 2.7-acre strip of land just south of downtown. It is the site originally used as the Union Pacific passenger depot. The park provides picnic areas and a playground area.

Situated along the east bank of the Laramie River, Optimist Park serves the small neighborhood that is bounded by the Union Pacific tracks and Interstate 80. Facilities include play equipment, picnic areas, a basketball court, a soccer field, restrooms, a dog run and off street parking. It also provides a gateway to the Laramie River Greenbelt.

Impacts to Parks and Recreation

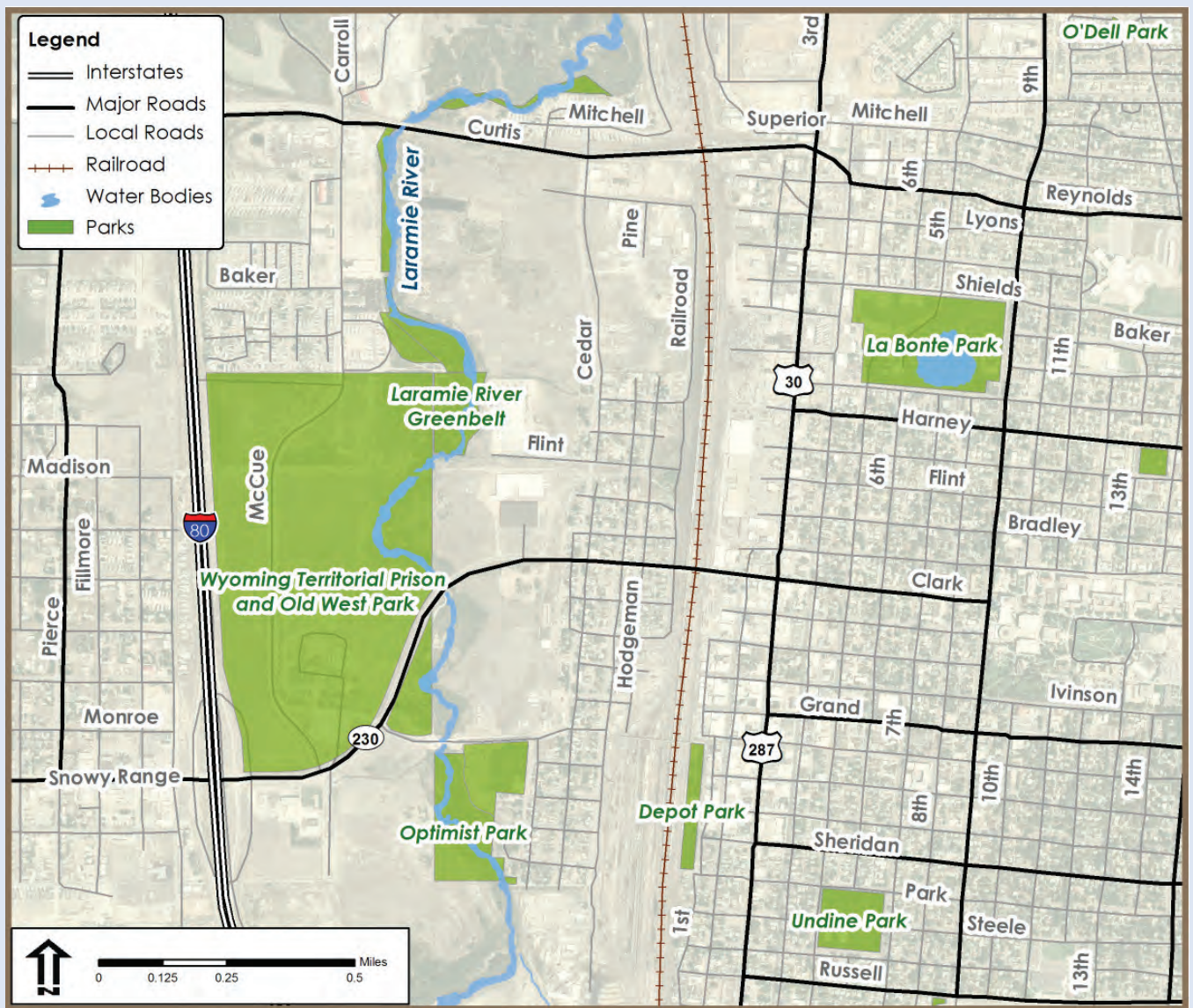
No-Build Alternative: Under the No-Build Alternative future plans for an on-street bike and pedestrian path that would utilize the new Harney Street viaduct would not be realized. This alternative would not result in any impacts to existing parks or the proposed future park located at the former British Petroleum/ Amoco Refinery site.

Table 3-23: Parks

Park	Approximate Location
Depot Park	2nd and Sheridan
Laramie River Greenbelt	Garfield and Spruce (5.75 mi)
Optimist Park	W. Garfield and Spruce
Wyoming Territorial Prison	Garfield and SH 230

Source: City of Laramie GIS Department

Figure 3-17: Parks





Alternative 1A: This alternative would not impact any existing or planned future park facilities and would be compatible with future trails plans that include a bicycle/pedestrian connection on the new Harney Street viaduct.

Alternative 1C: This alternative would not impact any existing or planned future park facilities and would be compatible with future trails plans that include a bicycle/pedestrian connection on the new Harney Street viaduct.

Alternative 1D (Preferred Alternative): This alternative would not impact any existing park facilities and would be compatible with future trails plans that include a bicycle/pedestrian connection on the new Harney Street viaduct. Alternative 1D could impact land that has been proposed by the City of Laramie as a future park. Alternative 1D could also improve access to this proposed future park.

Parks and Recreation Mitigation

No existing parks or recreational resources would be affected by any of the build alternative, as such, no mitigation will be required. WYDOT and the City of Laramie will collaborate on a joint planning solution that will minimize impacts to the land proposed for future park development.

3.17 Summary of Impacts and Identification of Preferred Alternative

Table 3-24 presents a summary of impacts anticipated for each Harney

Street viaduct alternative; No-Build, 1A, 1C, and 1D.

Based on the detailed environmental impact analysis of these alternatives and public and agency input received as part of the Environmental Assessment, WYDOT and FHWA identified Alternative 1D as the Preferred Alternative. Although all alternatives would serve the purpose and need of the project, Alternative 1D provides the best alignment with the least overall impacts to the natural, cultural, and social environments thereby best serving the greater public good.

Although Alternative 1D would result in a slightly longer roadway (less than 0.25 mile longer), would potentially impact minimal area of wetlands, is within impact PMJM potential habitat, and would have a potential risk at one hazardous waste site, it would have the fewest residential relocations, would enhance community cohesion within the West Side Neighborhood, would have the fewest sensitive noise receptors, would impact the fewest visual impacts, and would have the fewest impacts to historic properties. It would also have the least overall harm to Section 4(f) properties. Alternative 1D has been identified by the Laramie City Council as the alternative recommended to best balance the collective needs of the community. Additionally, Alternative 1D would cost \$0.6 to \$1.6 million less than Alternative 1A and \$0.7 to \$0.8 million less than Alternative 1C.

Table 3-24: Summary of Impacts

Resource	No-Build Alternative	Alternative 1A	Alternative 1C	Alternative 1D
Land Use and Zoning	<ul style="list-style-type: none"> No conversion of lands to transportation uses, consistent with existing zoning, inconsistent with future land use plans. 	<ul style="list-style-type: none"> 16 acres of land converted to transportation use. Generally consistent with existing zoning although increased traffic on Harney Street would be less consistent with residential land uses. Would not be consistent with future land use plans as a result of further disruption of the West Side Neighborhood making it less viable to for reinvestment and more susceptible to decline. 	<ul style="list-style-type: none"> 12 acres of land converted to transportation use Generally consistent with existing zoning although increased traffic on the new diagonal roadway crossing the West Side Neighborhood would be less consistent with residential land uses Would not be consistent with future land use plans as a result of further disruption of the West Side Neighborhood making it less viable to for reinvestment and more susceptible to decline. 	<ul style="list-style-type: none"> 19 acres of land converted to transportation use Entirely consistent with existing zoning land use Entirely consistent with future land use plans by preserving the viability of the West Side Neighborhood and keeping it less susceptible to decline.
Social Resources & Environmental Justice	<ul style="list-style-type: none"> No change in population or housing. No changes to the social resources throughout the Study Area. Clark Street would continue to act as a barrier separating the north and south portions of the neighborhood resulting and an obstacle to improving the community cohesion. No improvement in the bicycle and pedestrian connectivity within the Study Area. Would not result in improved east-west connectivity. Would not result in a disproportionately high and adverse impact on any minority or low-income populations. 	<ul style="list-style-type: none"> No change in population or housing. Community cohesion would be disrupted by the construction of the new a major thoroughfare dividing the West Side Neighborhood. Would result in improved access and bicycle and pedestrian connectivity for residents of the West Side Neighborhood and the rest of the City of Laramie. Property acquisitions, visual and noise impacts would all occur in area of environmental justice concern. Would not result in a disproportionately high and adverse impact on any minority or low-income population. 	<ul style="list-style-type: none"> No change in population or housing. Community cohesion would be disrupted by the construction of the new major thoroughfare dividing the West Side Neighborhood diagonally northeast to southwest. Would result in improved access for residents of the City of Laramie but access for residents of West Side Neighborhood would likely be reduced with fewer access points to the new roadway and within the neighborhood. Improved bicycle and pedestrian connectivity for residents of the West Side Neighborhood. Property acquisitions, visual and noise impacts would all occur in area of environmental justice concern. Would not result in a disproportionately high and adverse impact on any minority or low-income population. 	<ul style="list-style-type: none"> No change in population or housing. Community cohesion would be enhanced by the removal of high volumes of traffic from Clark Street. Would result in improved access for residents of the West Side Neighborhood and the rest of the City of Laramie. Improved bicycle and pedestrian connectivity for residents of the West Side Neighborhood. Noise impacts would occur in area of environmental justice concern. Would not result in a disproportionately high and adverse impact on any minority or low-income population.



Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT

Resource	No-Build Alternative	Alternative 1A	Alternative 1C	Alternative 1D
Economic Resources	<ul style="list-style-type: none"> No direct impacts to economic resources. Without improvements in access that would benefit the West Side Neighborhood it is unlikely that any reinvestment in the community would occur. No potential to generate construction related employment or sales of locally sourced materials. 	<ul style="list-style-type: none"> Short-term construction impacts could temporarily affect access to local businesses. Long term improvements in system connectivity and increased mobility would benefit business. Businesses along Clark Street may be impacted by the reduction in traffic volumes. Maintains access from Snowy Range Road to Clark Street to mitigate for the discontinued use of the Clark Street viaduct. 5 businesses would be acquired and relocated and 4 additional businesses would have property partially acquired. Would sever the existing rail connections to the Rocky Mountain Forest Products facility and the Laramie Cold Storage facility. Potential to generate a small amount of construction related employment and sales of locally sourced construction materials. 	<ul style="list-style-type: none"> Short-term construction impacts could temporarily affect access to local businesses. Long term improvements in system connectivity and increased mobility would benefit business. Businesses along Clark Street may be impacted by the reduction in traffic volumes. Maintains access from Snowy Range Road to Clark Street to mitigate for the discontinued use of the Clark Street viaduct. 5 businesses would be acquired and relocated and 3 additional business would have property partially acquired. Would sever the existing rail connections to the Rocky Mountain Forest Products facility and the Laramie Cold Storage facility. Potential to generate a small amount of construction related employment and sales of locally sourced construction materials. 	<ul style="list-style-type: none"> Short-term construction impacts could temporarily affect access to local businesses. Long term improvements in system connectivity and increased mobility would benefit business. Businesses along Clark Street may be impacted by the reduction in traffic volumes. Maintains access from Snowy Range Road to Clark Street to mitigate for the discontinued use of the Clark Street viaduct. 5 businesses would be acquired and relocated and 4 additional businesses would have property partially acquired Would sever the existing rail connections to the Rocky Mountain Forest Products facility and the Laramie Cold Storage facility. Potential to generate a small amount of construction related employment and sales of locally sourced construction materials.
Traffic and Transportation	<ul style="list-style-type: none"> Distance of travel between 3rd Street and the merge with the Snowy Range Road – 0.5 mile; travel time of 1 minute. Would not support forecasted 2032 traffic volumes. Not compatible with State and Local Government Transportation Plans and Goals. 	<ul style="list-style-type: none"> Distance of travel between 3rd Street and the merge with the Snowy Range Road – 0.90 mile; travel time of 1 minute 40 seconds. Would support forecasted 2032 traffic volumes. Compatible with State and Local Government Transportation Plans and Goals. 	<ul style="list-style-type: none"> Distance of travel between 3rd Street and the merge with the Snowy Range Road – 0.76 mile; travel time of 1 minute 22 seconds. Would support forecasted 2032 traffic volumes. Compatible with State and Local Government Transportation Plans and Goals. 	<ul style="list-style-type: none"> Distance of travel between 3rd Street and the merge with the Snowy Range Road – 1.00 mile; travel time of 1 minute 51 seconds. Would support forecasted 2032 traffic volumes. Compatible with State and Local Government Transportation Plans and Goals.
Right of Way	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> 20 full parcel acquisitions (13 residential, 7 commercial) and 24 partial acquisitions (16 residential, 8 commercial). 	<ul style="list-style-type: none"> 24 full parcel acquisitions (13 residential, 11 commercial) and 12 partial acquisitions (6 residential, 6 commercial). 	<ul style="list-style-type: none"> 10 full parcel acquisitions (4 residential, 6 commercial) and 16 partial acquisitions (5 residential, 11 commercial).

Chapter 3: Affected Environment, Impacts, And Mitigation

Resource	No-Build Alternative	Alternative 1A	Alternative 1C	Alternative 1D
Air Quality	<ul style="list-style-type: none"> Albany County is in attainment for all criteria pollutant NAAQS and therefore, air quality analyses are not required. 2032 CO₂ Emissions resulting from AADT on the facility is estimated to be approximately 8.19 tons/day. 	<ul style="list-style-type: none"> Albany County is in attainment for all criteria pollutant NAAQS and therefore, air quality analyses are not required. 2032 CO₂ Emissions resulting from AADT on the facility is estimated to be approximately 12 tons/day. 	<ul style="list-style-type: none"> Albany County is in attainment for all criteria pollutant NAAQS and therefore, air quality analyses are not required. 2032 CO₂ Emissions resulting from AADT on the facility is estimated to be approximately 10 tons/day. 	<ul style="list-style-type: none"> Albany County is in attainment for all criteria pollutant NAAQS and therefore, air quality analyses are not required. 2032 CO₂ Emissions resulting from AADT on the facility is estimated to be approximately 13 tons/day.
Noise	<ul style="list-style-type: none"> No change from the existing conditions. 	<ul style="list-style-type: none"> Approximately 20 noise sensitive receptors impacted. 	<ul style="list-style-type: none"> Approximately 12 noise sensitive receptors impacted. 	<ul style="list-style-type: none"> Approximately 4 noise sensitive receptors impacted.
Water Quality and Floodplains	<ul style="list-style-type: none"> No new direct impacts to water resources. No change in amounts of impervious surfaces and therefore no increase in stormwater runoff. No new development within the floodplain. 	<ul style="list-style-type: none"> During construction, water will be withdrawn from the Laramie River for use in dust abatement and grading. Net increase of 9.47 acres of impervious surface which results in increased stormwater discharge, which may contain sediment and/or pollutants, to receiving waters. Short-term impacts could include increases in sediment levels into the Laramie River during construction. Approximately 5.85 acres of encroachment into the 100-year floodplain. 	<ul style="list-style-type: none"> During construction, water will be withdrawn from the Laramie River for use in dust abatement and grading. Net increase of 8.57 acres of impervious surface which results in increased stormwater discharge, which may contain sediment and/or pollutants, to receiving waters. Short-term impacts could include increases in sediment levels into the Laramie River during construction. Approximately 7.73 acres of encroachment into the 100-year floodplain. 	<ul style="list-style-type: none"> During construction, water will be withdrawn from the Laramie River for use in dust abatement and grading. Net increase of 9.88 acres of impervious surface which results in increased stormwater discharge, which may contain sediment and/or pollutants, to receiving waters. Short-term impacts could include increases in sediment levels into the Laramie River during construction. Approximately 8.85 acres of encroachment into the 100-year floodplain. Requires an extension of the existing culvert at the west end of Harney Street which would result in temporary impacts to this drainage through increased turbidity and sedimentation.
Wetlands	<ul style="list-style-type: none"> No impacts to any wetlands or waters of the U.S. 	<ul style="list-style-type: none"> Minor impacts (approximately 0.2 acre) to the wetlands adjacent to the Laramie River as a result of widening the Laramie River Bridge. 	<ul style="list-style-type: none"> Minor impacts (approximately 0.2 acre) to the wetlands adjacent to the Laramie River as a result of widening the Laramie River Bridge. 	<ul style="list-style-type: none"> Minor impacts (approximately 0.3 acre) to the wetlands adjacent to the Laramie River as a result of widening the Laramie River Bridge/and drainage ditch connected to Harney Street.



Resource	No-Build Alternative	Alternative 1A	Alternative 1C	Alternative 1D
Threatened and Endangered Species	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • 3.5 acres of PMJM potential habitat 	<ul style="list-style-type: none"> • 2 acres of PMJM potential habitat 	<ul style="list-style-type: none"> • 4 acres of PMJM potential habitat
Visual Quality	<ul style="list-style-type: none"> • Continued deterioration of the existing Clark Street viaduct would negatively affect scenic quality of the surrounding areas. 	<ul style="list-style-type: none"> • Introduces a new structure, shading adjacent areas, and obstructing views along the railroad corridor. • Re-direction of traffic would result in a visual intrusion to residences on Harney Street and to the West of the West Side Neighborhood from higher traffic volumes. • Removal of the existing viaduct would improve views for residences near the existing structure. • Travelers on the new viaduct would experience a visual environment different from the old facility however the visual characteristics of those views would remain generally unchanged including foreground and middleground views of commercial, residential, industrial and open and natural lands and background views of rolling open plains and mountains. • Travelers on the new roadway west of the viaduct would briefly pass through some residential surroundings before entering the more industrial and open areas west of the neighborhood. 	<ul style="list-style-type: none"> • Introduces a new structure, shading adjacent areas, and obstructing views along the railroad corridor. • Re-direction of traffic would result in a visual intrusion to a high number of residences on Hodgesman, Flint, Bradley, and Cedar Streets from higher traffic volumes. • Travelers on the new viaduct would experience a visual environment different from the old facility however the visual characteristics of those views would remain generally unchanged including foreground and middleground views of commercial, residential, industrial and open and natural lands and background views of rolling open plains and mountains. • Travelers on the new roadway west of the viaduct would pass through predominantly residential surroundings along the entire route of the new roadway. 	<ul style="list-style-type: none"> • Introduces a new structure, shading adjacent areas, and obstructing views along the railroad corridor. • Removal of the existing viaduct would improve views for residences near the existing structure. • Travelers on the new viaduct would experience a visual environment different from the old facility however the visual characteristics of those views would remain generally unchanged including foreground and middleground views of commercial, residential, industrial and open and natural lands and background views of rolling open plains and mountains. • Travelers on the new roadway west of the viaduct would pass through predominantly open and industrial settings north and west of the existing residential neighborhood. • Fewest number of houses would be next to a new viaduct, with visual impacts of the viaduct.

Chapter 3: Affected Environment, Impacts, And Mitigation

Resource	No-Build Alternative	Alternative 1A	Alternative 1C	Alternative 1D
Cultural Resources	<ul style="list-style-type: none"> No impacts to cultural resources. 	<ul style="list-style-type: none"> Potential West Side Neighborhood Historic District currently under review for eligibility would likely be adversely affected. Direct impacts to 700 linear feet of Site 48AB619 (the Laramie, Hahn's Peak & Pacific Railroad) would result in adverse effect under Section 106. Indirect impacts to 1 residence (48AB2297) would result in an adverse effect. 	<ul style="list-style-type: none"> Potential West Side Neighborhood Historic District currently under review for eligibility would likely be adversely affected. Direct impacts to 2,300 linear feet of Site 48AB619 (the Laramie, Hahn's Peak & Pacific Railroad) would result in adverse effect under Section 106. Indirect impacts to 7 residences (48AB2230, 48AB2232, 48AB2235, 48AB2238, 48AB2277, 48AB2306, 48AB2307) would result in an adverse effect. Direct impacts to 1 residence 48AB2279 would result in an adverse effect. 	<ul style="list-style-type: none"> Potential West Side Neighborhood Historic District currently under review for eligibility would likely be adversely affected. Direct impacts to 400 linear feet of Site 48AB619 (the Laramie, Hahn's Peak & Pacific Railroad) would result in an adverse effect.
Hazardous Materials	<ul style="list-style-type: none"> No risk of encountering contaminated materials. 	<ul style="list-style-type: none"> Low risk of encountering contaminated materials at two identified RECs. 	<ul style="list-style-type: none"> Low risk of encountering contaminated materials at two identified RECs. 	<ul style="list-style-type: none"> Low risk of encountering contaminated materials at two identified RECs and at one moderate risk REC.
Parks and Recreation	<ul style="list-style-type: none"> Would not be compatible with future plans for an on-street bike and pedestrian path that would utilize the new Harney Street viaduct. 	<ul style="list-style-type: none"> Would not impact any existing or planned future park facilities. Would be compatible with future trails plans that include a bicycle/pedestrian connection on the new Harney Street viaduct. 	<ul style="list-style-type: none"> Would not impact any existing or planned future park facilities. Would be compatible with future trails plans that include a bicycle/pedestrian connection on the new Harney Street viaduct. 	<ul style="list-style-type: none"> Would not impact any existing park facilities. Would be compatible with future trails plans that include a bicycle/pedestrian connection on the new Harney Street viaduct. Would potentially require acquisition of a small portion of the proposed park located at the British Petroleum/Amoco Refinery.



Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT

Chapter 4: Draft Section 4(f) Evaluation



Wyoming Territorial Prison,
a Section 4(f) Resource

4.1 Introduction

Section 4(f) was created when the United States Department of Transportation (USDOT) was formed in 1966. It is codified at Title 49 United States Code (U.S.C.) Section 1653(f) (Section 4(f) of the USDOT Act of 1966, as amended), Title 23 U.S.C. Section 138. Section 138 states, and in regulations at 23 CFR 774:

“The Secretary shall not approve any program or project (other than any project for a park road or parkway under Section 204 of this title) which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from an historic site of national, State, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use.”

A Section 4(f) “use” occurs when:

1. Land from a Section 4(f) property is permanently incorporated into a transportation facility; land will be considered permanently incorporated into a transportation project when it has been purchased as right-of-way or sufficient property interests have been otherwise ac-

quired for the purpose of project implementation; or

2. There is a temporary occupancy of land that is adverse in terms of the Section 4(f) statute’s preservation purposes. Under the FHWA/FTA regulations, a temporary occupancy of property does not constitute a use of a Section 4(f) property when the following conditions are satisfied:
 - The occupancy must be of temporary duration (i.e., shorter than the period of construction) and not involve a change in ownership of the property.
 - The scope of work must be minor, with only minimal changes to the protected resource.
 - There are no permanent adverse physical effects to the protected resource, nor will there be temporary or permanent interference with activities, features or attributes of the property.
 - The land being used must be fully restored to a condition that is at least as good as that which existed prior to the proposed project.
 - There must be documented agreement of the officials with jurisdiction over the Section 4(f) resource regarding the above conditions; or



3. There is no permanent incorporation of land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection are substantially impaired. This is called a constructive use of the property.

Section 4(f) further requires consultation with the U.S. Department of the Interior and, as appropriate, involving the offices of the U.S. Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs which use lands protected by Section 4(f). Section 4(f) applies only to the actions of agencies within the USDOT. The USDOT is responsible for applicability determinations, evaluations, findings and overall compliance.

This Section 4(f) Evaluation addresses the potential uses of Section 4(f) properties that occur as a result of alternatives developed to replace the Clark Street viaduct in an alignment extending west from the intersection of 3rd Street and Harney Street to SH 230 east of the Laramie River Bridge. This chapter includes a summary of the purpose and need for the project, a discussion of alternatives considered and a least overall harm analysis since all of the alternatives use Section 4(f) properties.

4.2 Summary of Project Purpose and Need

The purpose of establishing a new viaduct and associated roadway over the railroad is to replace the structurally deficient viaduct currently located at

Clark Street with a structure and associated roadway that would accommodate future local and regional transportation systems and needs in the City of Laramie.

The implementation of the proposed action should address the following needs:

- To **provide a continuous east-west transportation system connection** that will serve corridor traffic movements through the City of Laramie.
- To **provide transportation service, increased capacity, and improved functionality** needed for the future (2032).
- To **improve operational efficiency for bridge, roadway, intersections, and pavement and safety** on the existing transportation system.
- To **provide transportation service** that is **consistent with local** transportation and land use **plans**.

4.3 Alternatives Considered

Options within each alternative were developed to include reasonable variations in roadway alignment and viaduct skew. The following sections describe those options identified for initial evaluation and screening.

All alternatives/options would extend Harney Street roadway from 3rd Street crossing the Union Pacific Railroad (UPRR) and join the existing State Highway 230 (SH 230) also known as Snowy Range Road.

The new viaduct and roadway would become SH 230.

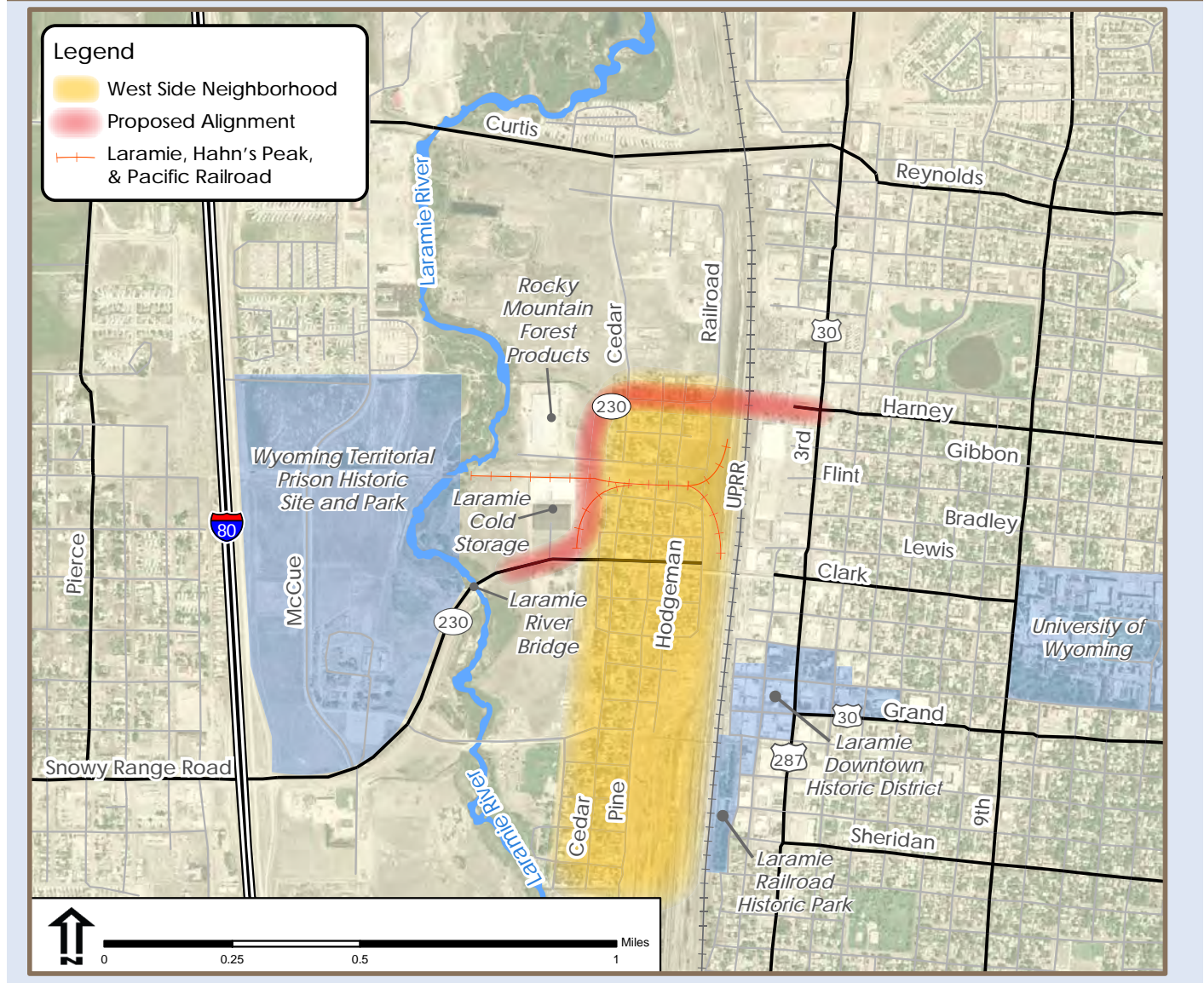
Alternative 1 Options

Option 1A

This option would relocate the eastern terminus of SH 230 to 3rd Street and Harney Street, proceed due west over the UPRR, follow the existing Harney Street alignment west of UPRR, turn south

along the western boundary of the West Side Neighborhood and intersect the present SH 230 just west of Cedar Street. The intersection of 3rd Street and Harney Street would be improved. The existing Clark Street viaduct would be removed and Clark Street would become a local street on either side of the UPRR. The Laramie River Bridge on SH 230 would be widened.

Figure 4-1: Alternative 1 - Option 1A



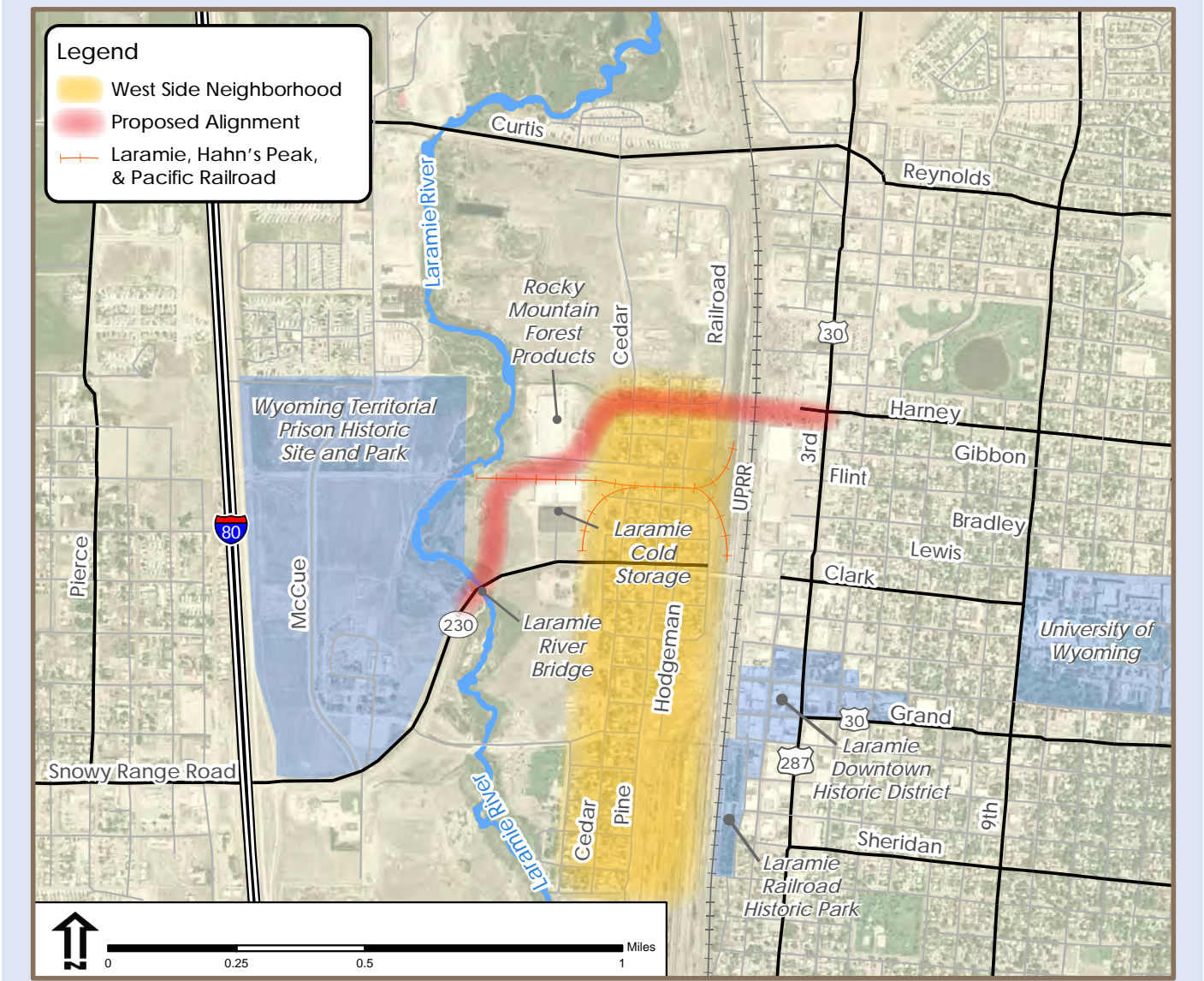


Option 1B

This option would relocate the eastern terminus of SH 230 to 3rd Street and Harney Street, proceed due west over the UPRR, follow the existing Harney Street alignment west of the UPRR to the western edge of the West Side Neighborhood, turn southwest to the Laramie, Hahn's Peak, & Pacific Railroad between Rocky Mountain Forest Products and Laramie Cold Storage, then turn

south to intersect the present alignment of SH 230 at the Laramie River Bridge. The bridge would need to be replaced under this option to accommodate the skewed approach of the roadway. The intersection of 3rd Street and Harney Street would be improved. The existing Clark Street viaduct would be removed and Clark Street would become a local street on either side of the UPRR. The Laramie River Bridge on SH 230 would be widened.

Figure 4-2: Alternative 1 - Option 1B

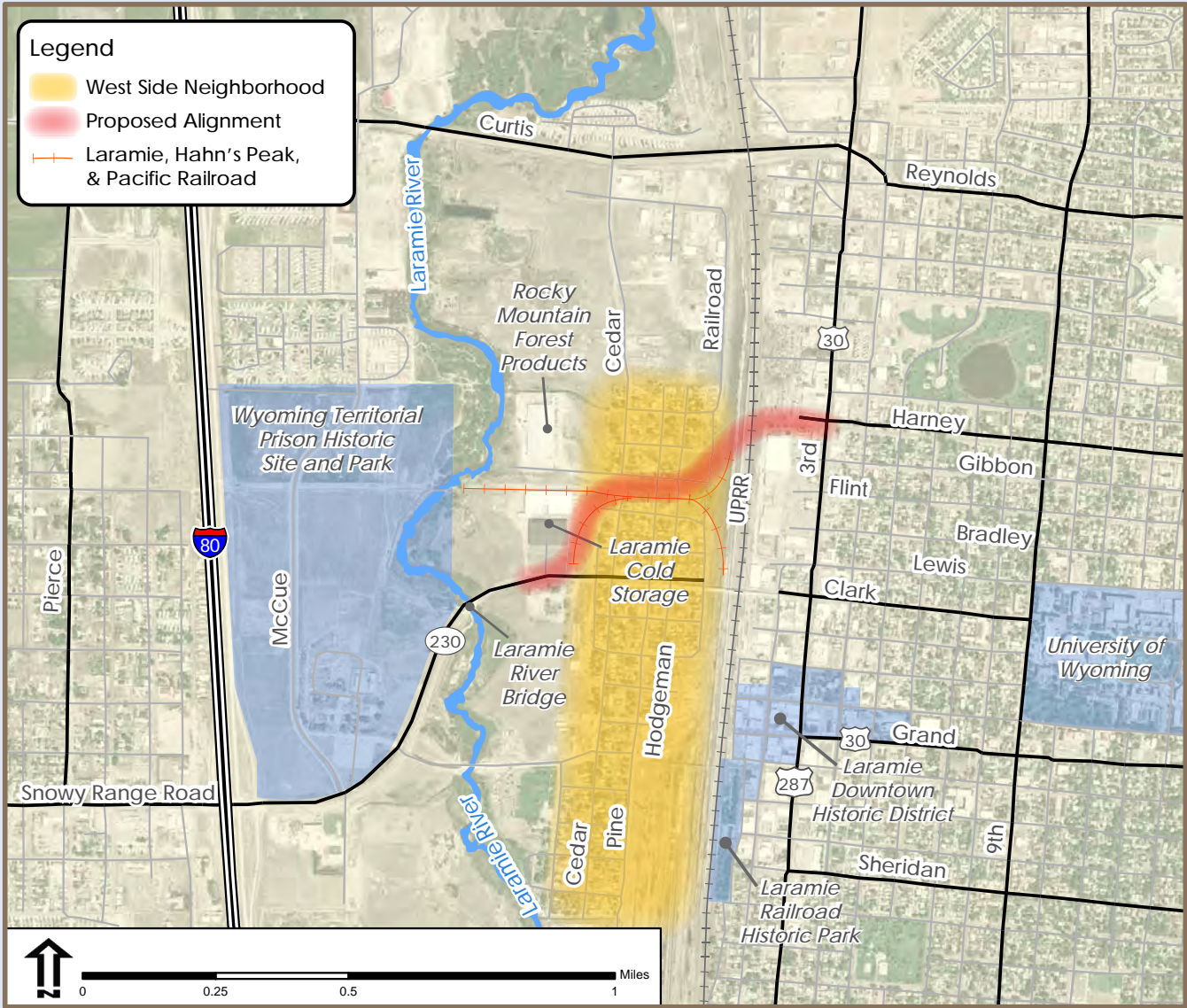


Option 1C

This option would relocate the eastern terminus of SH 230 to 3rd Street and Harney Street, cross the UPRR at an angle skewed to the southwest, follow the northeastern arm, mainline, and southwestern arm of the wye of the Laramie, Hahn’s Peak, & Pacific Railroad through the West Side Neighborhood trending

southwest, and intersect the present alignment of SH 230 just west of Cedar Street. The intersection of 3rd Street and Harney Street would be improved. The existing Clark Street viaduct would be removed and Clark Street would become a local street on either side of the UPRR. The Laramie River Bridge on SH 230 would be widened.

Figure 4-3: Alternative 1 - Option 1C



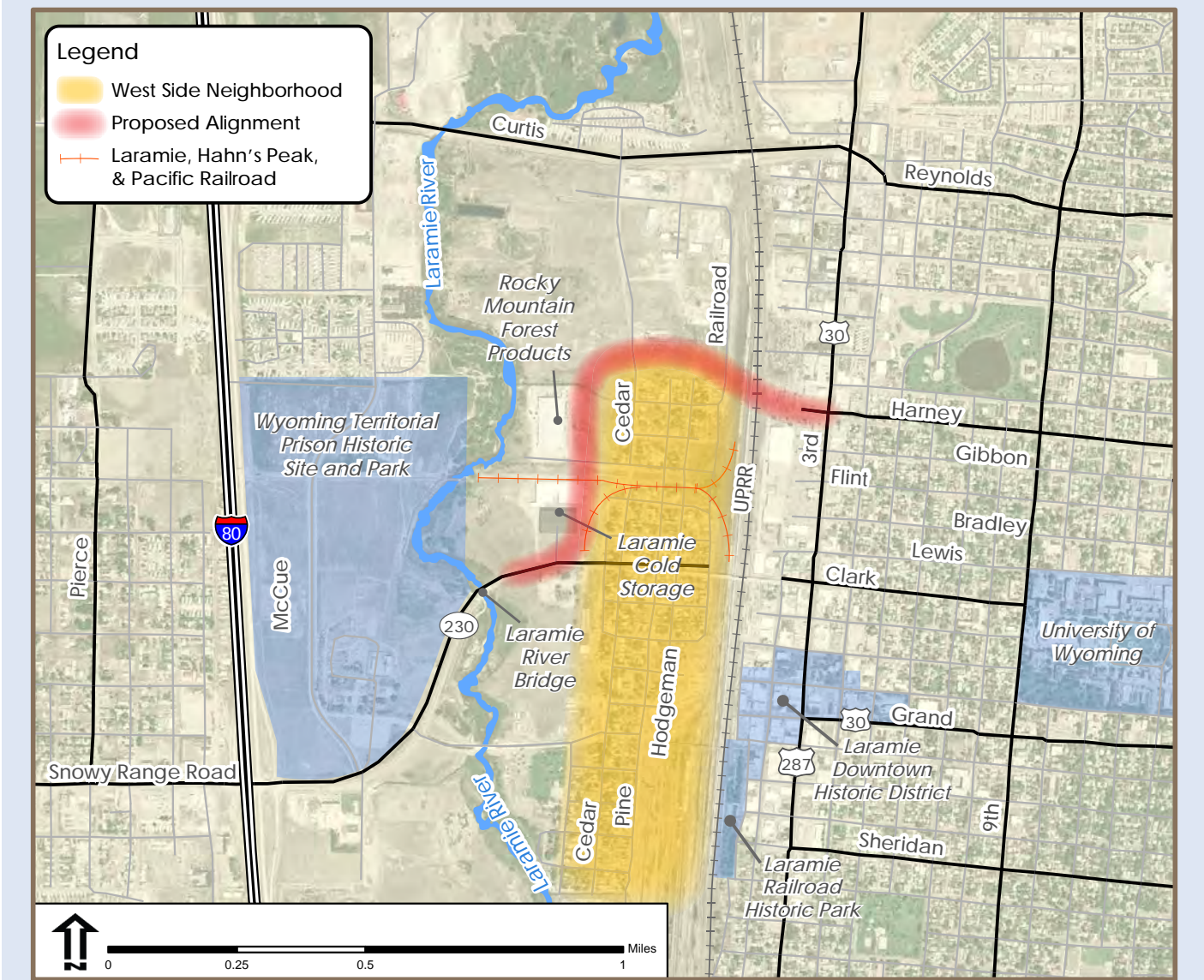


Option 1D

This option would relocate the eastern terminus of SH 230 to 3rd Street and Harney Street, cross the UPRR at an angle skewed to the northwest, continue west slightly to the north of the West Side Neighborhood, turn south on the western edge of the neighborhood and intersect the present SH 230 just west

of Cedar Street. The intersection of 3rd Street and Harney Street would be improved. The existing Clark Street viaduct would be removed and Clark Street would become a local street on either side of the UPRR. The Laramie River Bridge on SH 230 would be widened.

Figure 4-4: Alternative 1 - Option 1D



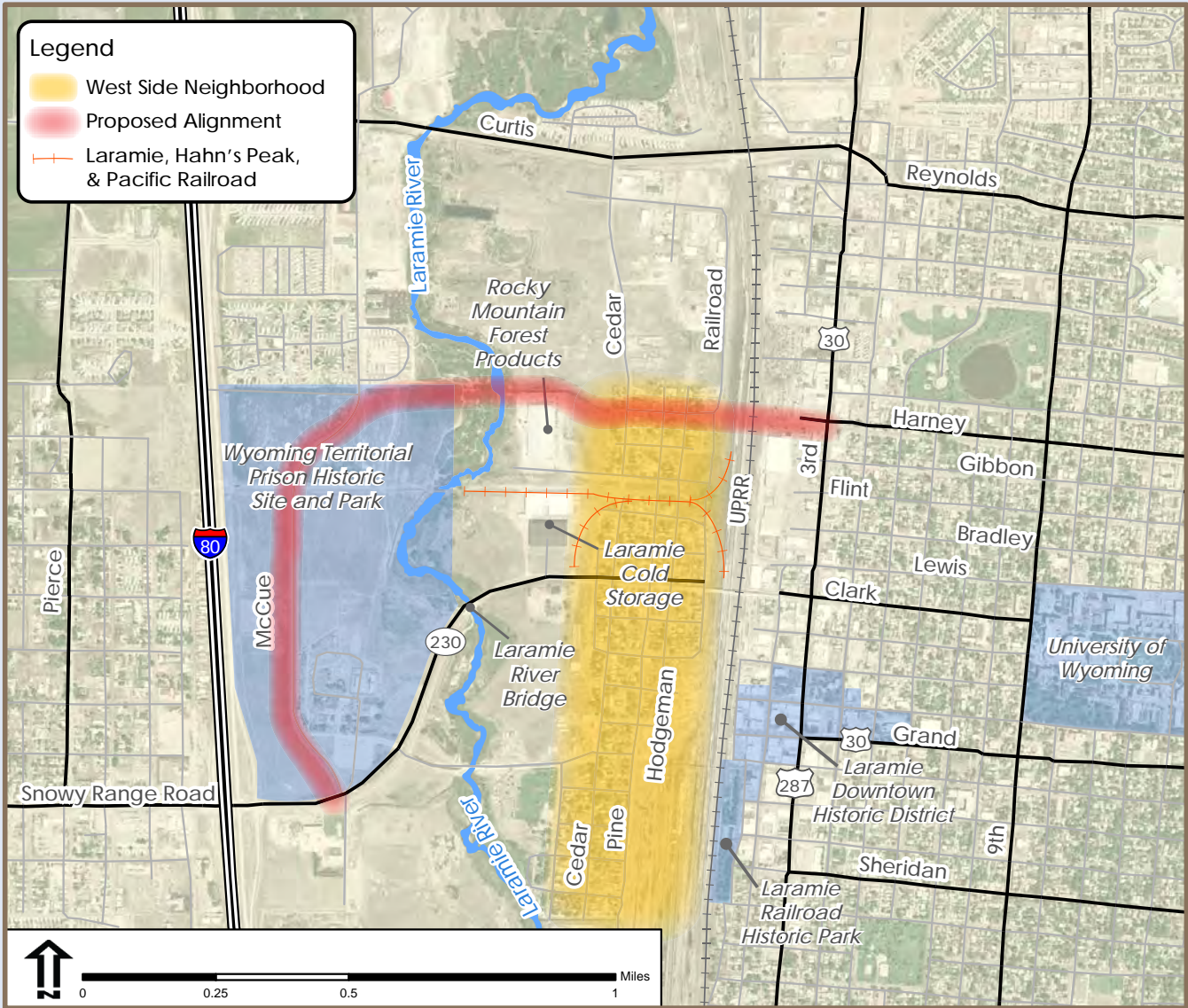
Alternative 2 Options

Option 2A

This option would relocate the eastern terminus of SH 230 to 3rd Street and Harney Street, proceed due west over the UPRR, follow the existing Harney Street alignment west of the UPRR to McCue Street, and then turn south through the

Wyoming Territorial Prison State Park to intersect SH 230 west of the Laramie River. The intersection of 3rd Street and Harney Street would be improved. The existing Clark Street viaduct would be removed and Clark Street would become a local street on either side of the UPRR. This option would require a new bridge crossing the Laramie River.

Figure 4-5: Alternative 2 - Option 2A



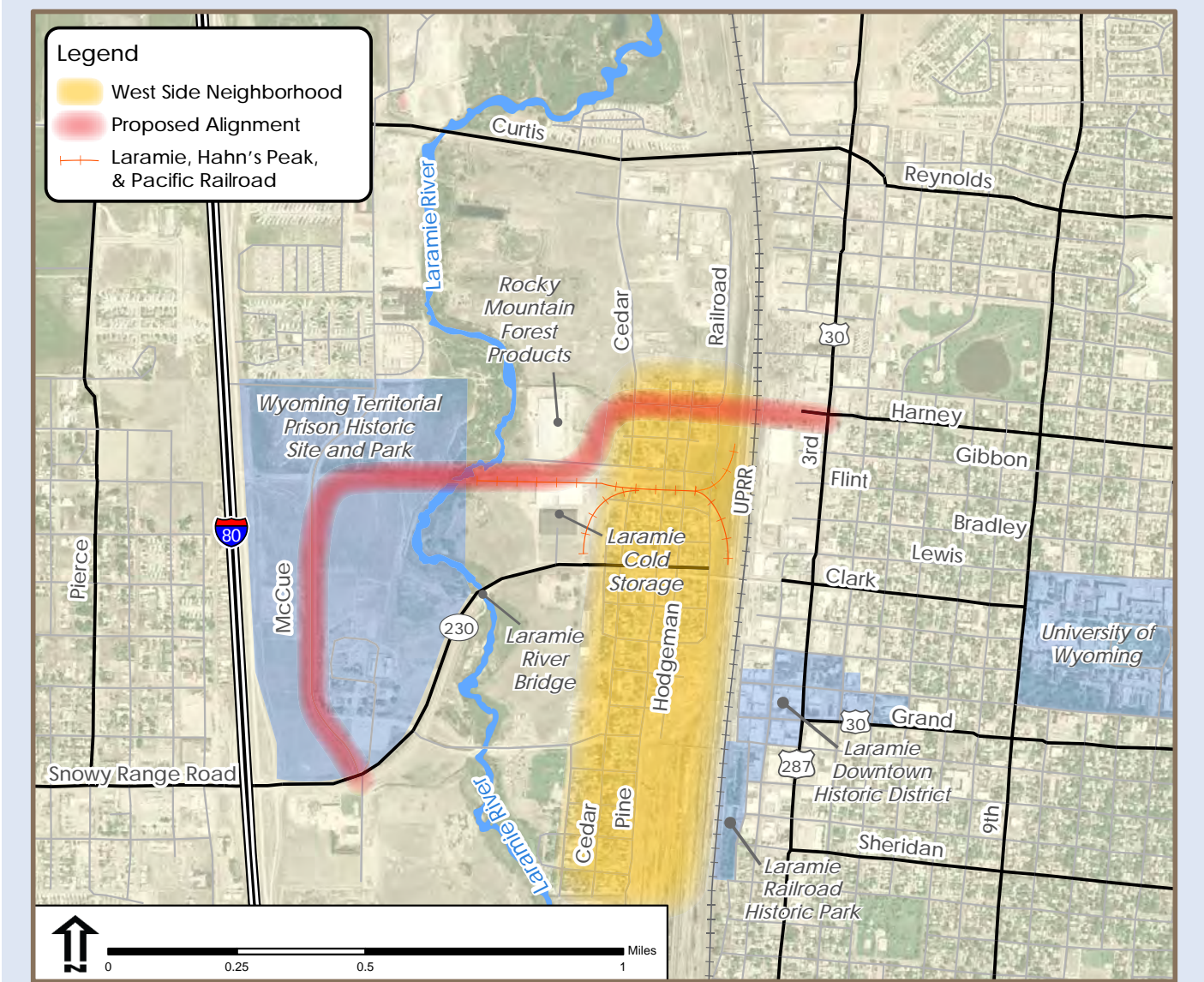


Option 2B

This option would relocate the eastern terminus of SH 230 to 3rd Street and Harney Street, proceed due west over the UPRR, follow the existing Harney Street alignment west of the tracks to the western edge of the West Side Neighborhood, turn southwest to the Laramie, Hahn's Peak, & Pacific Railroad, proceed west along the railroad to

McCue Street, then turn south through the Wyoming Territorial Prison State Park to intersect SH 230 west of the Laramie River. The intersection of 3rd Street and Harney Street would be improved. The existing Clark Street viaduct would be removed and Clark Street would become a local street on either side of the UPRR. This option would require a new bridge crossing the Laramie River.

Figure 4-6: Alternative 2 - Option 2B

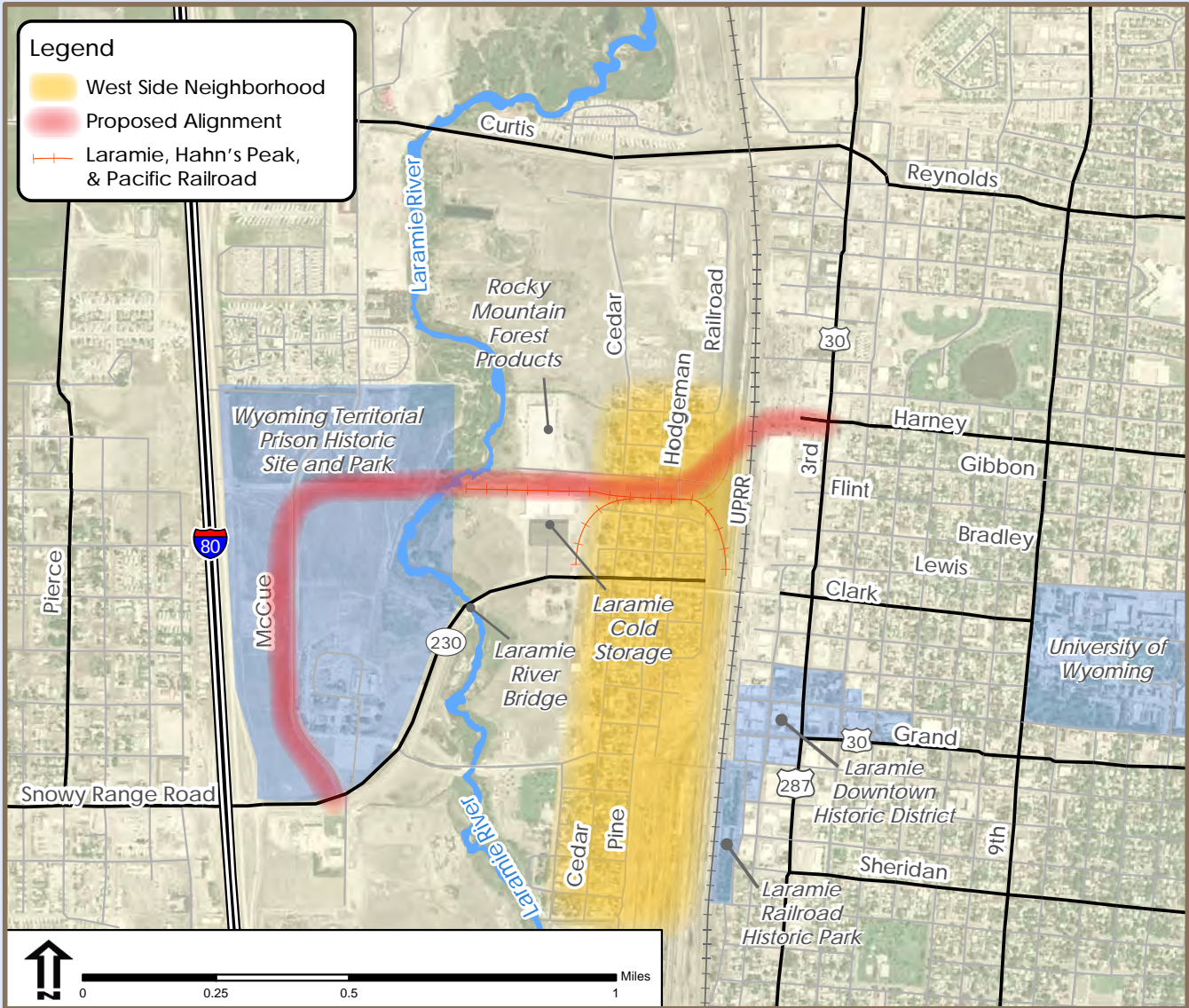


Option 2C

This option would relocate the eastern terminus of SH 230 to 3rd Street and Harney Street, cross the UPRR at an angle skewed to the southwest, follow the northeastern arm of the wye of the Laramie, Hahn's Peak, & Pacific Railroad to the mainline, turn west to McCue Street and then head south through

the Wyoming Territorial Prison State Park to intersect SH 230 west of the Laramie River. The intersection of 3rd Street and Harney Street would be improved. The existing Clark Street viaduct would be removed and Clark Street would become a local street on either side of the UPRR. This option would require a new bridge crossing the Laramie River.

Figure 4-7: Alternative 2 - Option 2C



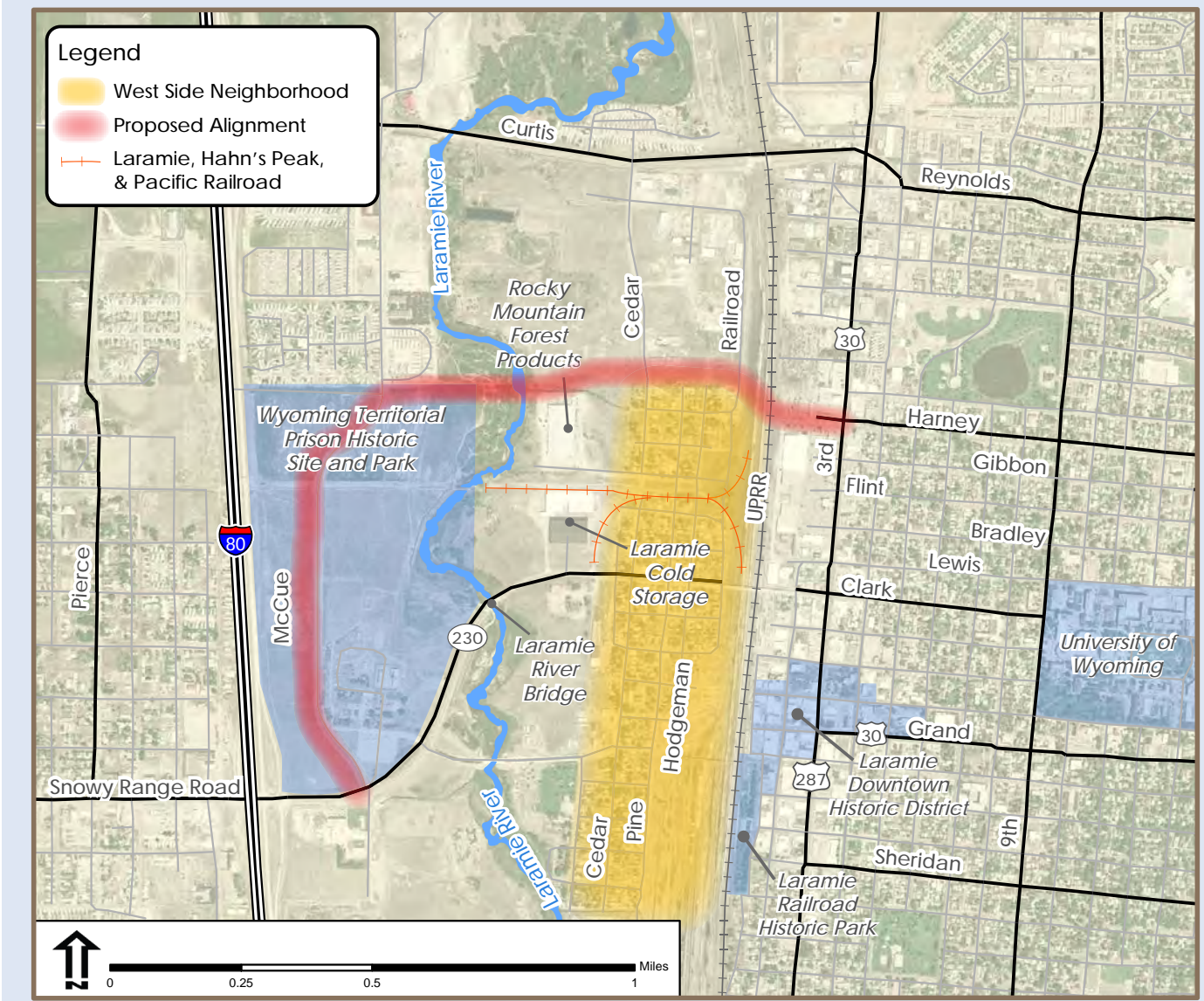


Option 2D

This option would relocate the eastern terminus of SH 230 to 3rd Street and Harney Street, proceed due west over the UPRR, follow the existing Harney Street alignment west of the tracks and proceed west to McCue Street, and then head south through the Wyoming Territorial Prison State Park to intersect SH

230 west of the Laramie River. The intersection of 3rd Street and Harney Street would be improved. The existing Clark Street viaduct would be removed and Clark Street would become a surface city street on either side of the UPRR. This option would require a new bridge crossing the Laramie River.

Figure 4-8: Alternative 2 - Option 2D



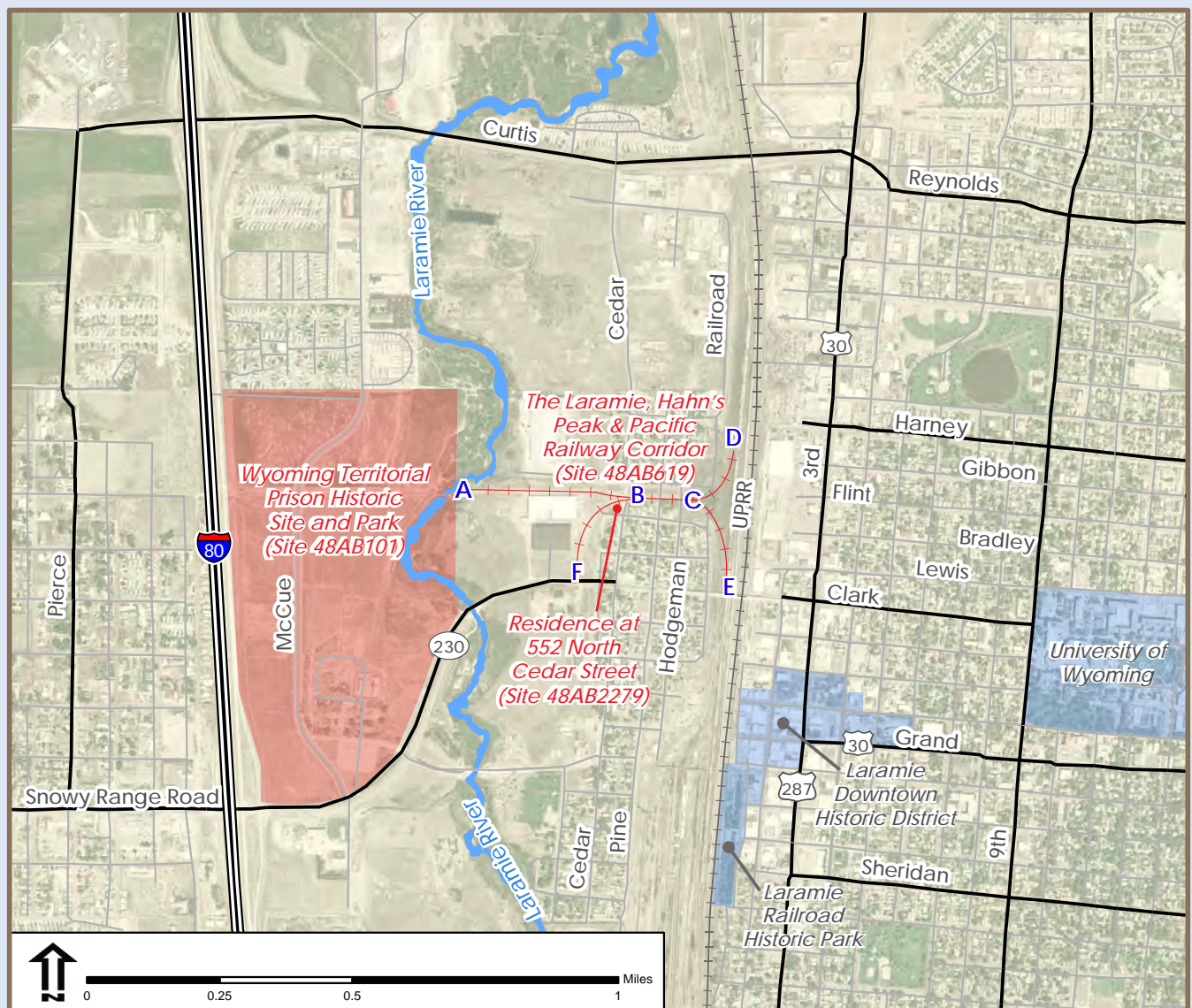
4.4 Section 4(f) Properties

There are three properties protected by Section 4(f) that could be used by the various alternatives (Figure 4-9). All are historic properties, defined as properties listed on or determined eligible for inclusion to the NRHP. One of the historic properties is also a State Park, which is also protected under Section 4(f).

Table 4-1 includes the properties and their important activities, features, and attributes. A description of each of these properties is provided below:

Laramie, Hahn's Peak, & Pacific Railway Corridor (Site 48AB619) is a historic railroad which represents the Transportation theme and the Expansion, Depression, World War II Era, Post-World War II and Modern historic periods. It is eligible to the NRHP under Criteria A and C.

Figure 4-9: Section 4(f) Properties





Laramie, Hahn's Peak & Pacific Railway North of the Laramie Cold Storage Building looking west

Segment A-F of this property is a contributing element of the overall Wyoming-Colorado Railroad National Register eligible linear district. It is regionally significant because it was an interstate railroad between Laramie and Walden County to ship coal, mineral ores, timber and livestock. The segment of 48AB619 retains integrity of setting, location, design, materials, workmanship, feeling, and association. Features of significance include the mainline grade, wye, tracks, hand switches and other accoutrements. West of Point A, the line has been directly impacted by the Laramie River Greenbelt and an associated parking lot and tracks have been removed. Section B-F has been severed by SH 230 and is no longer functional. The integrity of setting varies along the segment, but overall it is rated as fair because of the construction of the Laramie River Greenbelt, the presence of two large

modern warehouse complexes on either side of Segment A-B, and the razing of the depot in the early 1950s. The setting of the Laramie, Hahn's Peak, & Pacific Railroad within the West Side Neighborhood is mostly unchanged from the 1920's and 1930's. The storage warehouses are served by rail sidings and are consistent with the historic use of the railroad. Therefore, Segment A-F retains fair integrity of feeling and association with its period of historical significance.

The **residence at 552 North Cedar Street** (Site 48AB2279) is a one-story, wood frame, front-gable dwelling (59 feet by 18 feet) that represents the manufactured vernacular architectural style. It is significant locally as an example of the worker's housing which developed in the West Side Neighborhood in response to the industrial growth of Laramie, including the UPRR, Laramie, Hahn's

Table 4-1: Section 4(f) Properties and Their Features

Property	Important Activities, Features, and Attributes
The Laramie, Hahn's Peak & Pacific Railway Corridor (Site 48AB619)	Significant under Criteria A and C. Of regional significance because it was an interstate railroad between Laramie and Walden County to ship coal, mineral ores, timber and livestock. The segment of 48AB619 retains integrity of setting, location, design, materials, workmanship, feeling, and association. Features of significance include the mainline grade, wye, tracks, hand switches and other accoutrements.
Residence at 552 North Cedar Street (Site 48AB2279)	Significant under Criterion C. The important features of the residence are its architectural significance that represents the manufactured vernacular architectural style. The house is significant locally as an example of the worker's housing which developed in the West Side Neighborhood in response to the industrial growth of Laramie, including the UPRR, Laramie, Hahn's Peak & Pacific Railroad, Midwest and Standard Oil Refinery. It retains integrity of setting, location, design, materials, workmanship, feeling, and association.
Wyoming Territorial Prison Historic Site and Park (Site 48AB101)	Significant under Criteria A & B. The significance of the Wyoming Territorial Prison lies in the fact that it is historically and architecturally unique in Wyoming. It is significant on the national level as an example of the territorial criminal justice system and was chosen as the site of the U.S. Marshal's Museum when it first opened to the public. It retains integrity of setting, location, design, materials, workmanship, feeling, and association.

Peak & Pacific Railroad, and Midwest and Standard Oil Refinery. The dwelling rests on a poured concrete foundation without a basement. The moderately pitched gable roof is clad with asphalt shingles and has extended boxed eaves. The building also has a straddle ridge brick chimney. The exterior walls are clad with stucco. The facade or east side has an enclosed gable-roofed porch (5 feet by 11 feet) with a single entry with a concrete stoop. The entrance is composed of a multi-light wood door covered by an aluminum storm door. The porch has three multiple glass block windows. The building has a gable-roofed wood frame addition on the west side (from 1945) and a shed addition (3 feet by 19 feet) on the south side. Otherwise, windows in the dwelling are typically one-over-one-light double-hung units with wood sash and aluminum storm windows. The interior consists of seven rooms with one bath.

This building is considered eligible to the NRHP because it retains fair physical integrity with changes to the front porch and possible later additions to the south and west sides. As such, it represents the historic time period in this working class neighborhood from the late 19th century through 1960.

This building possesses sufficient architectural integrity to make it eligible as an individual property.

The **Wyoming Territorial Prison Historic Site and Park** (Site 48AB101) is both a historic site and a state park. It is significant on the national level as an example of the territorial criminal justice

system and was chosen as the site of the U.S. Marshal's Museum when it first opened to the public. It retains integrity of setting, location, design, materials, workmanship, feeling, and association. Aside from the rich history accumulated over its 30-year service as a penal institution, the penitentiary has a number of notable points that distinguish it as one of Wyoming's most significant buildings. It is the only federal penitentiary ever to have been built in Wyoming and the only facility that was used to house territorial convicts within the territory. It is one of the oldest buildings still standing in the state, and one of the few remaining from the 1870s. As a non-military building, it is exceeded in age by only one other structure—the Sweetwater County Jail in South Pass City (built in 1870). Its history spans both territorial and state periods in Wyoming.

Architecturally, the main building of the penitentiary is a handsome, massive stone structure, indebted for its form not to the strict adherence to any particular architectural style, but to the function for which it was intended. When the original wing as constructed in 1872, it



Wyoming Territorial Prison Historic Site and Park



was the most massive stone structure to have been built in Wyoming at that time. It was by far the largest and most elaborate jail in the state, until the construction of its replacement in Rawlins. The warden's residence is the only remaining evidence, with the exception of the bricks in a number of Laramie structures, of the convicts' labor. Together, the two buildings afford a unique opportunity to preserve this fascinating aspect of Wyoming territorial history.

4.5 Avoidance Alternatives Analysis

The three properties illustrated on Figure 4-9 could be used by the alternatives described in Section 4.3. The intent of Section 4(f) is to avoid use of these properties unless there is no feasible and prudent alternative to the use of the land. Therefore, the first step is to determine whether there are feasible and prudent alternatives that avoid these properties.

According to 23 CFR 774.17, an alternative is not feasible if it cannot be constructed as a matter of sound engineering judgment. An alternative is not prudent if:

- It compromises the project to a degree that it is unreasonable to proceed with the project in light of the stated purpose and need.
- It results in unacceptable safety or operational problems.
- After reasonable mitigation it still causes:
 - Severe social, economic or environmental impacts.

- Severe disruption to established communities.
- Severe disproportionate impacts to minority or low income populations.
- Severe impacts to environmental resources protected under other federal statutes.
- It results in additional construction, maintenance, or operational costs of an extraordinary magnitude.
- It causes other unique problems or unusual factors.
- It involves multiple factors (listed above) that while individually minor, collectively cause unique problems or impacts of extraordinary magnitude.

No- Build Alternative

The No-Build Alternative does not address the need to replace the Clark Street viaduct, would not provide a continuous direct east-west arterial to accommodate future transportation needs, would not provide improved transportation service, increased capacity and improved functionality for the proposed action roadway network and land use and would not provide improved operational efficiency for bridge, roadway, intersections, pavement and safety. For these reasons, this alternative is not a prudent alternative.

Rehabilitating the Clark Street Viaduct

It has been determined that the Clark Street corridor does not meet the trans-

portation planning purpose and need for a direct east and west transportation system connection. Clark Street terminates at the University of Wyoming campus approximately seven blocks east of the viaduct, preempting a continuous east-west connection across Laramie. Without a continuous east-west arterial system, and as stated in *The Laramie Comprehensive Plan*, there will be unnecessary interruptions, moving traffic onto street segments that are not designed to carry the associated traffic volume, and traffic will become overly congested. Connectivity is a key to providing an efficient, safe, and convenient roadway network for vehicular traffic; and establishing this connectivity is a need of this proposed action.

A new east-west arterial with additional travel lanes is needed to connect the western limits of Laramie through Laramie to the eastern limits of Laramie. The Clark Street corridor, from SH 230 to its terminus at the University of Wyoming, will not meet the purpose of the proposed action and, as a result, it has been determined not prudent.

Replacing the Clark Street Viaduct on Clark Street

It has been determined that the Clark Street corridor does not meet the transportation planning purpose and need for a continuous east-west transportation system connection. Clark Street terminates at the University of Wyoming campus approximately seven blocks east of the viaduct, preempting a continuous east-west connection across Laramie. Without a continuous east-west arterial system, and as stated in *The*

Laramie Comprehensive Plan, there will be unnecessary interruptions, moving traffic onto street segments that are not designed to carry the associated traffic volume, and traffic will become overly congested. Connectivity is a key to providing an efficient, safe, and convenient roadway network for vehicular traffic; and establishing this connectivity is a need of this proposed action.

A new east-west arterial with additional travel lanes is needed to connect the western limits of Laramie through Laramie to the eastern limits of Laramie. The Clark Street corridor, from SH 230 to its terminus at the University of Wyoming, will not meet the purpose of the proposed action and, as a result, it has been determined not prudent.

At-Grade Crossing Alternative

One alternative that was developed to avoid use of the existing historic Laramie, Hahn's Peak, & Pacific Railroad was to leave the tracks in place. It is not feasible for Alternative 1C because the alignment coincides with approximately 2300 feet of railroad track and grade which would have to be removed.

Alternatives 1A and 1D could leave the tracks in place, but an at-grade crossing would be required. An at-grade crossing would result in no change to the integrity of setting, design, materials, and workmanship of the Laramie, Hahn's Peak, & Pacific Railroad and would likely be determined to have no adverse effect with respect to Section 106. Both alternatives would still result in Section 4(f) use of the Laramie, Hahn's Peak, &



Clark Street Viaduct



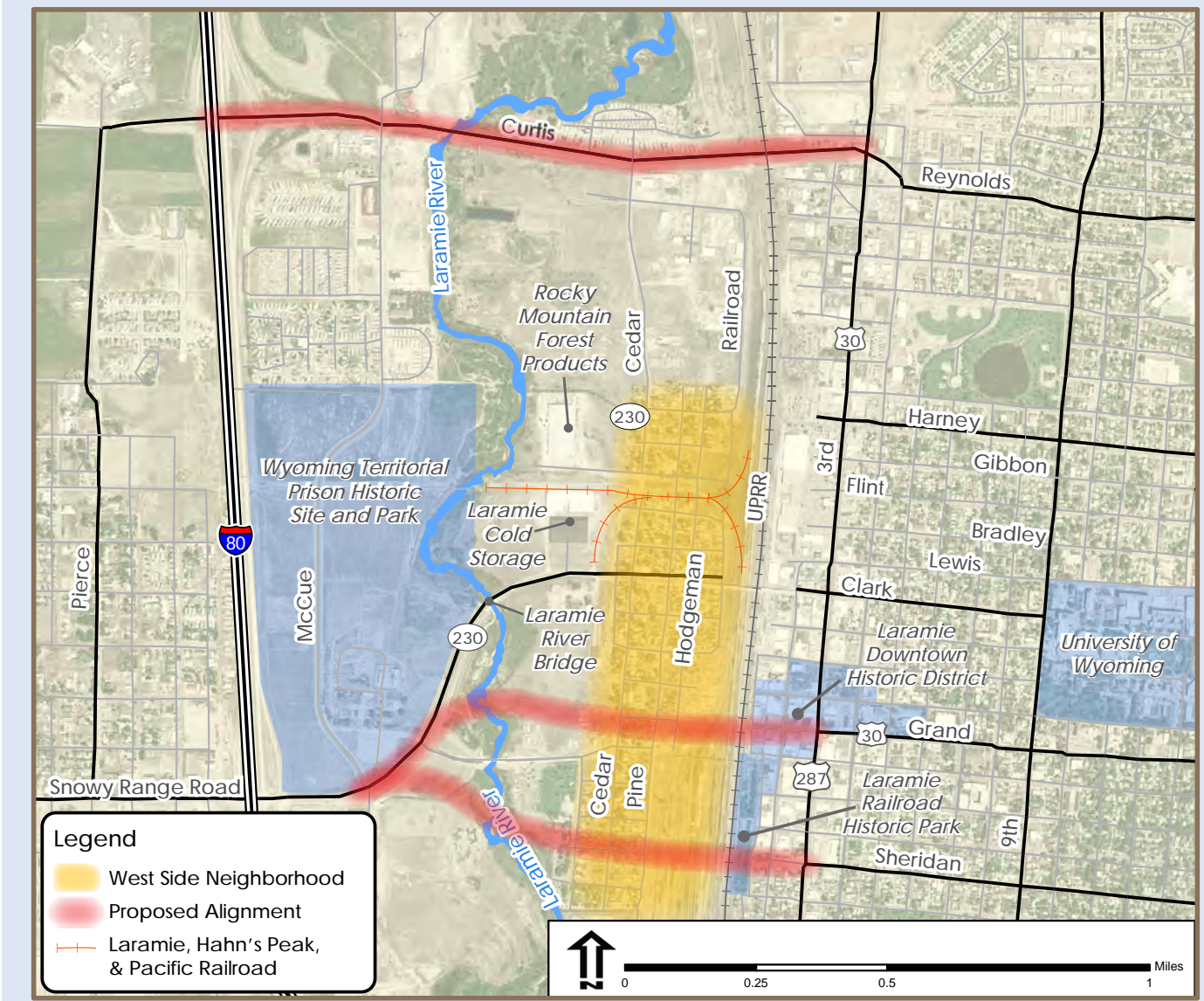
Pacific Railroad due to the acquisition of right-of-way for SH 230 (700 feet for Alternative 1A and 400 feet for Alternative 1D from the mainline and southwestern arm of the wye). Also, because an at-grade crossing would present the potential for roadway traffic disruption, it would not meet the need for the project to provide improved functionality and operational efficiency. As such, the at-grade crossing avoidance alternative

would not be prudent because it would not meet the project purpose and need and would result in Section 4(f) property use.

Reynolds Street, Grand Avenue, and Sheridan Street Alignments

An alternative following a Reynolds Street (and Curtis Street) alignment and connection to I-80 to the north (**Figure 4-10**) would create considerable out

Figure 4-10: Reynolds Street, Grand Avenue, and Sheridan Street Options



of direction travel for residents of the West Side Neighborhood accessing downtown Laramie. This alternative would also require major modification or rebuilding of two bridge structures (UPRR crossing and Laramie River crossing). For these reasons, the Reynolds Street alternative is not a prudent alternative.

An alternative following the Grand Avenue alignment (**Figure 4-10**) would impact the downtown Laramie economy by relocating numerous businesses along a three-block corridor. This alternative would not reduce traffic on Grand Avenue and would most likely increase congestion at the 3rd and Grand Avenue intersection thus impeding the overall city-wide transportation system.

The Grand Avenue alternative would result in adverse effects to and Section 4(f) use of the Laramie Downtown Historic District and would directly impact the West Side Neighborhood, a proposed historic district. This alternative would also require a new structure crossing the Laramie River, resulting in additional wetland impacts. The width of the UPRR rail yard at the Grand Avenue alignment crossing is approximately double that of the Harney Street alignment crossing, requiring additional bridge span and increased construction costs. For these reasons, the Grand Avenue alternative is not a prudent alternative.

An alternative following a Sheridan Street alignment (**Figure 4-10**) would terminate at 26th Street and thus would not provide a continuous east-west transportation system connection. This

alternative would also require a new structure crossing the Laramie River, resulting in additional wetland impacts. The width of the UPRR rail yard at the Sheridan Street alignment crossing is more than double that of the Harney Street alignment crossing, requiring additional bridge span and increased construction costs. A Sheridan Street alternative would impact a portion of the Laramie Downtown Historic District and the Laramie Railroad Heritage Park, both Section 4(f) properties. There would also be an impact to the potential West-side Neighborhood Historic District.

The eastern portion of the Sheridan Street alternative would result in impacts to neighborhoods along a roadway that was not planned as a principal arterial. For these reasons, the Sheridan Street alternative is not a prudent alternative.

Alternative 2

The various options developed as a part of Alternative 2 all use the Wyoming Territorial Prison Historic Site and Park and a portion of the Laramie, Hahn's Peak, & Pacific Railway Corridor and are therefore not full avoidance alternatives. They are, however, avoidance alternatives as it relates to the residence at 552 North Cedar Street. The options were not advanced because they would:

1. Not best meet purpose and need for the project (provide less continuous east-west connection).
2. Result in greater travel distances – travel distances for Alternative 1 options range from 0.8 to 1.0 mile while travel distances for Alternative



2 options range from 1.7 to 1.8 miles, approximately twice the distance of the Alternative 1 options.

3. Increase both the initial construction cost and the long-term maintenance cost based on the additional 0.7 to 1.0 mile of roadway.
4. Require a new structure over the Laramie River and increase wetlands impacts associated with the new structure.
5. Results in direct impacts to and Section 4(f) use of the nationally significant Wyoming Territorial Prison Historic Site and Park and the regionally significant Laramie, Hahn's Peak, & Pacific Railroad.

For these reasons, Alternative 2 options are not considered feasible and prudent.

Option 1B

Option 1B is not a full avoidance alternative. It was not advanced because upon further evaluation of the options, it was concluded that Options 1A and 1B alignments were identical from 3rd Street west to a point between the Rocky Mountain Forest Products facility and the Laramie Cold Storage facility. From that point to the connection with SH 230 Option 1B was approximately 800 feet longer and would require realignment of the Laramie River Bridge. Option 1B was eliminated because Option 1A better satisfied the project purpose and need (more direct transportation system connection) and Option 1B would require the realignment (rebuilding) of the

Laramie River Bridge to accommodate the skewed roadway approach.

Tunnel under Section 4(f) Properties

Alternative 1C with Tunnel. Alternative 1C could be adjusted to avoid use of Section 4(f) properties (both the historic railroad and the 552 North Cedar Street residence) by boring a tunnel underneath the railroad and the Westside Neighborhood. Boring a tunnel would be substantially more expensive.

Mobilization cost, special equipment and specialized expertise would result in an additional construction cost of approximately \$18M to \$21M more than the estimate for Alternative 1C, and would require additional long-term maintenance, doubling the cost for Alternative 1C. It was not considered to be feasible and prudent for the following reasons:

- This alternative would result in additional project cost of extraordinary magnitude.
- Geotechnical conditions for sub-grade excavation, and boring may not be practical with relative location of the Laramie River.
- Maintenance cost for lighting, ventilation, and drainage adds to the alternative cost.

Alternative 1A and 1D with Tunnel under Laramie, Hahn's Peak, & Pacific Railway Corridor. Alternative 1A and 1D could be adjusted to avoid use of Section 4(f) properties by tunneling the alignment under Flint Street and the Laramie, Hahn's Peak, & Pacific Railway Corridor.

The method of constructing this alternative for avoidance would not disrupt, directly impact, or remove the Section 4(f) properties. Although less than tunneling for Alternative 1C, boring a tunnel would still be substantially expensive, requiring mobilization cost, special equipment and specialized expertise and would not be feasible and prudent.

Bridge over Section 4(f) Properties

Alternative 1C with Elevated Viaduct.

Alternative 1C could be adjusted to avoid use of Section 4(f) properties by raising the alignment onto an extended viaduct, with a continuation of the grade-separated crossing of the railroad southwest across Gibbon Street, Flint Street, Laramie, Hahn's Peak, & Pacific Railway Corridor, and Bradley Street.

This option would avoid use of Section 4(f) properties, but would result in an additional construction cost of approximately \$11M to \$13M more than the estimate for Alternative 1C, and would require additional long-term maintenance, doubling the cost for Alternative 1C. It was not considered to be feasible and prudent for the following reasons:

- This alternative would result in additional project cost of extraordinary magnitude.
- Elevated viaduct has substantial visual impacts.

Alternative 1A and 1D with Bridge over Laramie, Hahn's Peak, & Pacific Railway Corridor. Alternative 1A and 1D could be adjusted for avoidance of the Laramie, Hahn's Peak, & Pacific Railway Corridor by elevating the alignment over

the Flint Street and the Laramie, Hahn's Peak, & Pacific Railway Corridor with a grade-separated bridge. This alternative would avoid use of the Laramie, Hahn's Peak, & Pacific Railway Corridor, but would result in an additional construction cost of approximately \$10M to \$12M more than the estimate for Alternatives 1A or 1D, increasing the cost of the alternative by approximately one-third. It was not considered to be feasible and prudent for the following reasons:

- This alternative would result in additional project cost of extraordinary magnitude.
- This alternative would limit access to adjacent properties and businesses.
- This alternative would provide other concerns of use, safety, and maintenance with the additional bridge structure.

Summary

Based on the above considerations, there is no feasible and prudent avoidance alternative to the use of land from the Laramie, Hahn's Peak, & Pacific Railway Corridor, the residence at 552 North Cedar Street, and the Wyoming Territorial Prison Historic Site and Park.

4.6 Use of Section 4(f) Properties

As defined in 23 CFR Part 774.17, the use of a Section 4(f) property occurs when:

- Land is permanently incorporated into a transportation facility.
- There is a temporary occupancy of land that is adverse in terms of the statute's preservation purposes.



- There is no permanent incorporation of land from a Section 4(f) property, but the project’s proximity impacts are so severe that the protected activities, features or attributes that qualify the property for protection are substantially impaired. This type of use is called a constructive use.

All of the uses described in this section are direct uses. There are no additional temporary occupancies of land in the study area that would be adverse in terms of the preservation purposes of Section 4(f). Similarly, there are no additional proximity impacts that are so severe that the attributes or features that qualify the Section 4(f) property for protection are substantially impaired.

Table 4-2 provides a summary of Section 4(f) uses by alternative.

Description of Use for the Laramie, Hahn’s Peak, & Pacific Railway Corridor (948AB619)

Alternative 1A Uses

Construction of this alternative would use approximately 700 feet of the main-

line track and southwest arm of the wye of the Laramie, Hahn’s Peak, & Pacific Railroad. There would be no other Section 4(f) uses under this alternative.

Alternative 1C Uses

Construction of this alternative would use approximately 2300 feet of the mainline, the northeast and the southwest arms of the wye of the Laramie, Hahn’s Peak, & Pacific Railroad.

Alternative 1D Uses

Construction of this alternative would remove approximately 400 feet of the mainline and southwest arm of the wye of the Laramie, Hahn’s Peak, & Pacific Railroad. There would be no other Section 4(f) uses under this alternative.

Description of Use for Residence at 552 North Cedar Street (Site 48AB2279)

Alternative 1C

The residence at 552 North Cedar Street would be acquired and demolished to support construction of Alternative 1C.

Table 4-2: Direct Uses of Section 4(f) Properties

Alternatives	Section 4(f) Properties: Direct Uses		
	Laramie, Hahn’s Peak, & Pacific Railway Corridor (Site 48AB619)	Wyoming Territorial Prison Historic Site and Park (Site 48AB101)	Residence at 552 North Cedar Street (Site 48AB2279)
1A	Yes (700 ft)	No	No
1C	Yes (2300 ft)	No	Yes
1D	Yes (400 ft)	No	No

4.7 Least Overall Harm Analysis

Section 4(f) mandates that if all alternatives use land from a Section 4(f) property, then an analysis must be performed to determine which alternative has the least overall harm. Pursuant to 23 CFR 774.3.c(1), the least overall harm is determined by balancing the following factors:

- The ability to mitigate the adverse impacts to each Section 4(f) property;
- The relative severity of the remaining harm, after mitigation, to the protected activities, attributes or features that qualify each property for protection;
- The relative significance of each property;
- The view of the officials with jurisdiction over the property;
- The degree to which each alternative meets the purpose and need for the project;
- The magnitude, after mitigation, of any adverse impacts to resources not protected by Section 4(f); and
- Substantial differences in cost among the alternatives.

Ability to Mitigate Adverse Impacts

The ability to mitigate adverse impacts to the Laramie, Hahn's Peak, & Pacific Railroad and the residence at 552 North Cedar Street was discussed with the SHPO, City of Laramie, and other consulting parties throughout 2011 and

2012. Alternatives 1A and 1D are the most straightforward to mitigate because they have the least impact to the Laramie, Hahn's Peak, & Pacific Railroad and do not use any other Section 4(f) properties. Alternative 1A affects a slightly larger amount of the southwest arm of the wye than Alternative 1D, but mitigation would be similar. This would involve detailed documentation of the Laramie, Hahn's Peak, & Pacific Railroad and associated buildings in and adjacent to the APE and a variety of interpretive programs for the public, including development of a traveling museum exhibits, a walking tour of railroad related buildings and features, oral histories and an oral history museum exhibit, and a scale model of the wye of the Laramie, Hahn's Peak, & Pacific Railroad.

Alternative 1C removes most of the Laramie, Hahn's Peak, & Pacific Railroad within the APE and would demolish one home. Mitigation for Alternative 1C would be far more complex, difficult, and costly. Potential mitigation strategies discussed for Alternative 1C included acquisition of property outside the APE and establishment of trust funds for railroad related properties. It was not established whether these were feasible or not.



Laramie, Hahn's Peak, & Pacific Railway Wye.



Relative Severity of the Remaining Harm

The relative severity of remaining harm, after mitigation, to the protected activities, attributes and or features that qualify the Laramie, Hahn's Peak, & Pacific Railroad and the residence at 552 North Cedar Street is substantially less for Alternatives 1A and 1D, as compared to Alternative 1C. Both Alternatives 1A and 1D completely avoid the residence and leave the vast majority of the Laramie, Hahn's Peak, & Pacific Railroad intact. Under these two alternatives, the remaining portions would still be considered contributing elements to the overall significance of the NRHP eligible property. Under Alternative 1C, only a small isolated segment of the southeast arm of the wye would remain. It would be considered non-contributing after mitigation due to loss of integrity of setting, design, materials, workmanship, feeling and association.

Relative Significance of Each Property

The Laramie, Hahn's Peak, & Pacific Railroad is considered of regional significance as it served as an interstate railroad corridor. The residence at 552 North Cedar Street is considered to be of local significance within the context of the history of Laramie. All three alternatives use portions of the Laramie, Hahn's Peak, & Pacific Railroad. Alternative 1C also uses a property of local significance.

Views of the SHPO

The view of the SHPO is that Alternative 1D results in the least adverse effect to

the NRHP eligible Laramie, Hahn's Peak, & Pacific Railroad and other historic properties in the APE.

Degree to Which Each Alternative Meets the Purpose and Need

The three alternatives are very similar in terms of their effectiveness at meeting the purpose and need for the project, as discussed below.

Alternative 1A

- Provides a relatively continuous east-west transportation system connection. Travel distance is 0.90 mile.
- Alternative 1A eliminates existing direct access to Harney Street by some West Side Neighborhood residences, thus requiring a new city street north of the West Side Neighborhood to compensate for access eliminated by the elevated roadway and bridge structure.
- Alternative 1A includes three access points (Cedar Street, Flint Street, and Clark Street).
- Alternative 1A is compatible with the City of Laramie's transportation plans and goals.

Alternative 1C

- Provides the most continuous east-west transportation system connection at a distance of 0.76 mile.
- Alternative 1C limits the access opportunities to two access points (Cedar Street and Clark Street).

- Alternative 1C is compatibility with the City of Laramie's transportation plans and goals.

Alternative 1D

- Provides a somewhat longer circuitous east-west transportation system connection. Travel distance is 1.00 mile.
- Alternative 1D includes three access points (Cedar Street, Flint Street, and Clark Street).
- Alternative 1D is compatible with the City of Laramie's transportation plans and goals.

Magnitude, After Mitigation, of Adverse Impacts to Other Resources

Adverse impacts to other resources not protected by Section 4(f) is displayed in **Table 4-3**.

After mitigation is factored into the analysis of impacts, the remaining resources that indicate a difference among the three build alternatives are:

- Right-of-way required, including the location of that right-of-way; and
- Noise receptors impacted;
- Visual impacts;
- Social/community disruption; and
- Indirect, adverse effect to historic properties.

Because both Alternatives 1A and 1C require full acquisition of 13 residential structures, that impact is harder to fully mitigate. Since Alternative 1D only requires removal of four homes, all on the

edge of the West Side Neighborhood, that is less of an adverse impact.

Similarly, since noise abatement is not reasonable, the substantially fewer receptors that would receive a noise impact with Alternative 1D is notable and less of an adverse impact.

It is difficult to fully mitigate the new presence of an elevated roadway from a visual impact standpoint. The location of it on the edge of the neighborhood (with Alternative 1D) is much less impactful.

Alternative 1C and to a lesser extent, Alternative 1A, both place a new arterial roadway in the middle of a cohesive neighborhood. This disruption to the community fabric is difficult to mitigate and constitutes an adverse impact.

Substantial Difference in Cost

The cost estimates are shown below, with no mitigation costs included.

- **Alternative 1A:** \$14.2 to \$18.3 million
- **Alternative 1C:** \$13.3 to \$18.5 million
- **Alternative 1D:** \$12.6 to \$17.7 million

None of these cost are considered to be substantially different.

Summary of Least Overall Harm

A summary of findings from each of the seven factors is included here:

- *The ability to mitigate the adverse impacts to the Section 4(f) properties is easiest with Alternative 1D and hardest with Alternative 1C.*



Table 4-3: Adverse Impacts to Environmental Resources not Protected by Section 4(f)

	Alternatives		
	1A	1C	1D
Wetlands	Only associated with Laramie River (approximately 0.2 acre).	Only associated with Laramie River (approximately 0.2 acre).	Laramie River (approximately 0.2 acre) plus 0.12 acre.
Threatened and Endangered Species	3.5 acres of PMJM potential habitat	2 acres of PMJM potential habitat	4 acres of PMJM potential habitat
Hazardous Waste	Low risks from 2 sites.	Low risks from 2 sites.	Low risks from 2 sites, and a moderate risk from 1 site.
Right-of-Way Needed			
Full Acquisitions	20	24	10
Residential Structures Acquired & Relocated	13	13	4
Partial Acquisitions	24	12	16
Noise Receivers Impacted	20	12	4
Adverse (Indirect) Effects to Historic Properties	1	7	0
Visual	Moderate effect	Greatest effect	Least effect
Floodplain Encroachment	5.85 acres	7.73 acres	8.85 acres
Water Quality: Impervious Surface Added	9.47 acres	8.57 acres	9.88 acres Also impacts a drainage not affected by other alternatives,
Social Fabric/Community Cohesion	Some negative effect	Noticeable negative effect	Least negative effect
Traffic & Transportation	<ul style="list-style-type: none"> Moderate travel distance and travel time Compatible with transportation plans Some effect to neighborhood circulation 	<ul style="list-style-type: none"> Shortest travel distance and travel time Compatible with transportation plans Most changes to neighborhood access and circulation 	<ul style="list-style-type: none"> Most travel distance and travel time Compatible with transportation plans Least effect to neighborhood circulation
Potential New Historic District	Moderate effect	Likely most effect	Likely least effect
Air Quality and Energy Consumption	<ul style="list-style-type: none"> VMT of 22,500 4,012 tons per year of carbon dioxide 523.7 billion BTUs consumed per year 	<ul style="list-style-type: none"> VMT of 18,750 3,344 tons per year of carbon dioxide 436.4 billion BTUs consumed per year 	<ul style="list-style-type: none"> VMT of 25,000 4,458 tons per year of carbon dioxide 581.9 billion BTUs consumed per year

- *The relative severity of the remaining harm, after mitigation, to the protected activities, attributes or features that qualify each property for protection* is the least with Alternative 1D.
- *The relative significance of each property* used for each alternative is the Laramie, Hahn's Peak, & Pacific Railroad. Alternative 1D uses the least amount of that property.
- *The view of the officials with jurisdiction over the property* is that Alternative 1D has the least effect to historic properties.
- *The degree to which each alternative meets the purpose and need for the project* is not substantially different among the three alternatives. Although Alternative 1C is more direct, the shorter distance between it and Alternative 1D is not sufficient for Alternative 1D to not meet that aspect of purpose and need. Other aspects of purpose and need are addressed similarly among the three alternatives.
- The magnitude, after mitigation, of any adverse impacts to resources not protected by Section 4(f) is less with Alternative 1D when compared to the other two alternatives. Its right-of-way, noise, visual, community cohesion impacts, and historic properties are much less noticeable than the other two alternatives.
- Substantial differences in cost are not a major factor in this analysis. Alternative 1D is the least expensive to build at between \$12.6 to \$17.7

million. Alternative 1C is moderately expensive at \$13.3 to \$18.5 million and 1A is the most expensive at \$14.2 to \$18.3 million. None of these are considered substantially different.

To summarize, Alternative 1D is considered to have the least overall harm because it has the greatest ability to mitigate adverse impacts to Section 4(f) properties, the least severity of remaining harm to the Section 4(f) properties, uses the least amount of the most significant property, is supported by SHPO, responds to the purpose and need and results in the least magnitude of adverse impact to resources not protected by Section 4(f). This alternative has been identified as the Preferred Alternative.

4.8 All Possible Planning to Minimize Harm

Mitigation for Impacts to Cultural Resources

Mitigation currently being discussed as a part of the MOA process includes:

- Completion of photography and documentation of the wye complex of Laramie, Hahn's Peak, & Pacific Railroad and associated buildings and objects from the UPRR west to the Laramie River Bridge and south of SH 230 to include the old engine house and any other associated buildings.
- Any existing associated railroad objects (hand switches, weigh scales, etc.) that are acquired from WY-COLO within the APE as part of the right-of-way acquisition and that will



be directly affected by proposed construction will be removed after documentation has been completed given to the Laramie Railroad Depot Association (LRDA).

- Provide funding to the LRDA through a separate agreement to construct a diorama of the wye complex and associated buildings of the Laramie, Hahn's Peak, & Pacific Railroad for display at the Laramie Railroad Depot Museum (LRDM).
- Develop a three panel portable display on the history of the Laramie, Hahn's Peak, & Pacific Railroad and railroad technology and provide this display to the LRDA for use in future displays and interpretive/educational projects
- Develop a railroad walking tour potentially including the Union Pacific Depot on 1st Street and the West Side Neighborhood and produce an associated brochure.
- Provide funding to the LRDA through a separate agreement to complete approximately 20 oral history interviews and transcriptions of former railroad personnel and families about the history and their experiences associated with the railroad industry in Laramie and Albany County and construct an exhibit at the LRDM so that the public may use the transcriptions. The exhibit shall include a parabolic speaker, digital recorder and motion sensor to start recordings.
- Install brown and white directional signage on SH 230 directing travel-

ers to the historic West Side Neighborhood.

- Review the bridge and roadway design to ensure that the determination of effects remains accurate and initiate amendment of this MOA as appropriate.

4.9 Record of Coordination

SHPO Coordination under Section 106

The Section 106 Consultation Process was initiated in 2009.

Following the submission of the historic report from Rosenberg Historic Consultants regarding the Midwest/Standard Oil Refinery (September 2009), on January 19, 2010 the SHPO concurred with the FHWA's recommendation that the refinery site was not eligible for inclusion on the NRHP. On July 20, 2010 FHWA submitted to the SHPO the results of historic investigations for eligibility determinations in regards to the Laramie, Hahn's Peak, & Pacific Railroad, Segments A-F and on the historic properties examined throughout the West Side Neighborhood. SHPO responded in a letter on August 18, 2010 concurring with the eligibility of the Laramie, Hahn's Peak, & Pacific Railroad, Segments A-F (Site 48AB619) for the NRHP. On this same date in a separate letter, the SHPO also concurred with the determinations of eligibility on the 32 properties located throughout the West Side Neighborhood that FHWA recommended as eligible for the NRHP.

In a letter dated January 19, 2011 FHWA requested concurrence on the effects

described above. In a letter dated February 2, 2011 the SHPO concurred that Alternative 1A would adversely affect two historic properties, 48AB2297, a historic residence, and 48AB619, a segment of the Laramie, Hahn's Peak, & Pacific Railroad. Alternative 1C would adversely affect multiple historic properties 48AB2279, 48AB2230, 48AB2232, 48AB2235, 48AB2238, 48AB2277, 48AB2306, 48AB2307, all historic residences, as well as 48AB619, a segment of the Laramie, Hahn's Peak, & Pacific Railroad. Alternative 1D would adversely affect one historic property, 48AB619, a segment of the Laramie, Hahn's Peak, & Pacific Railroad.

In the spring of 2012, there has been on-going coordination with the SHPO, ACHP, and with the consulting parties to discuss Section 106 effects and mitigation.



Agencies Participating in Scoping

U.S. Army Corps of Engineers

USDA Natural Resources Conservation Service

U.S. Fish & Wildlife Service

Wyoming Department of Environmental Quality

University of Wyoming

Wyoming State Historic Preservation Office

Albany County Commission

City of Laramie, City Manager's Office

City of Laramie/Albany County Planning Department

Wyoming Game & Fish Department

U.S. Environmental Protection Agency

followed the next day by a general Open House meeting. The West Side Neighborhood meeting was held prior to the general Open House meeting to provide the West Side Neighborhood residents and businesses a first look at proposed action information. The meetings were held February 10 and 11, 2009 and August 11 and 12, 2009. Flyers were distributed to advertise for the Neighborhood meeting and newspaper ads were published in the Laramie Boomerang newspaper to invite the public to attend the Open House.

5.2 What Did the Public Have to Say About the Project?

Both meetings were held in an open house format and presented the same information in identical formats. Project representatives were available to answer questions, discuss the project, and accept comments. Attendees at both meetings were encouraged to submit written (or transcribed) comments at the meeting, or to submit comments via mail, fax, or email.

The following list summarizes the comments received, or issues identified, at the Open House Meetings, and those received via mail, fax, telephone, or email.

- Community impacts to West Side Neighborhood
- Safety of curved roads
- Bicycle and pedestrian access
- Management of east-west traffic without diverting 18-wheeler traffic from I-80

- Impacts to wetlands and floodplains
- Displacement, compensation, and real estate values
- Integrity of the Territorial Prison
- Wildlife habitat along the Laramie River
- Disturbance of contaminated soils
- Visual impacts
- Access to businesses and residences
- Cost of alternatives.
- Connection to Snowy Range Road
- Impacts to the Laramie River Greenbelt
- Historic resources
- Speed limits
- Rail service for local industries
- School children safety

5.3 How was Agency Scoping Carried Out?

A list was compiled of relevant local, state, tribal, and federal agencies that would have an interest in the proposed Harney Street Viaduct project. A letter was sent to all agencies

5.4 How was Agency Scoping Carried Out?

A list was compiled of relevant local, state, tribal, and federal agencies that would have an interest in the proposed Harney Street Viaduct project. A letter was sent to all agencies on the list requesting input regarding their issues and concerns with the project.

5.5 What were the Agency Comments and Issues?

Eight of the agencies responded to the scoping letter request (See Scoping Report; Appendix D). A summary of the issues and concerns of each is provided below.

- **Wyoming Department of Environmental Quality:** While there are no known environmental resources in proximity to the viaduct, there are a few issues: the Union Pacific has a fueling platform enrolled in the Voluntary Remediation Program located just south of the project, and to the north is the former Amoco refinery location. Based on historical land uses, there is potential for contaminated soils in the area.
- **Wyoming Department of Environmental Quality – Air Quality Division:** Comments provided information regarding sections of the Wyoming Air Quality Standards and Regulations that apply to the project and should be initiated.
- **Environmental Protection Agency –Ecosystems Protection and Remediation:** Advised to consider the Clean Water Act Section 404, flood-plain management, protection of wetlands, and runoff, when developing the Environmental Assessment for the project.
- **Natural Resources Conservation Service:** Based on the site location, it is determined that there would not be an adverse impact to prime farmland or rangeland producers in the area. However, because the site would be disturbed, it is recommended that the site be re-vegetated as quickly as possible to minimize soil erosion and/or weed infestation.
- **Wyoming State Historic Preservation Office:** Historic properties are being addressed for determination of eligibility and preliminary assessment of effects for the project.
- **U.S. Fish & Wildlife Service:** Comments provided information pursuant to the Endangered Species Act, Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. A list of species that could be present within or near the project area was provided.
- **Wyoming Game and Fish Department:** Wildlife resources within the project area were identified. Project developers were encouraged to minimize impacts to wildlife by realigning and extending Harney Street to tie into the Snowy Range Road east of the Laramie River, preferably closer to Cedar Street than the river. Consideration should be given to avoiding raptor nests and best management practices should be employed to sediments and other pollutants are contained within the work area.
- **Department of the U.S. Army Corps of Engineers (USACE), Omaha District:** Dredging or filling of waters of the U.S. would require USACE authorization.



Harney Street Viaduct

ENVIRONMENTAL ASSESSMENT

List of References

1. Advisory Council on Historic Preservation. Personal communication. April 2012.
2. Albany County parcel mapping <http://www.co.albany.wy.us/gis.aspx>
3. Baumann, Peter. August 2009. "Green Belt Asbestos". Laramie Boomerang.
4. City of Laramie. November 2007. *Council Meeting: The consideration of a resolution in support of the Laramie Beautification Committee's application to the Wyoming Wildlife and Natural Resource Trust Fund grant for the Big Laramie River Restoration Project.*
5. City of Laramie. 2007. *Laramie Comprehensive Plan.*
6. City of Laramie. Planning Department <http://www.ci.laramie.wy.us/index.aspx?NID=224>
7. Council on Environmental Quality. 40 CFR 1508.20 – Mitigation Defined.
8. Environmental Data Resources. June 2010. *The EDR Radius Map Report with Geocheck.*
9. Environmental Protection Agency. Clean Water Act, Section 303(d), Impaired Waters and Total Maximum Daily Load Laws and Regulations <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/index.cfm>
10. Environmental Protection Agency. EnviroMapper <http://www.epa.gov/emefdata/em4ef.home>
11. Environmental Protection Agency. Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.
12. Environmental Protection Agency. 1990. Federal Clean Air Act. http://epa.gov/air/caa/caaa_overview.html
13. Environmental Protection Agency, Surf Your Watershed <http://cfpub.epa.gov/surf/locate/index.cfm>
14. Federal Emergency Management Agency. Flood Insurance Rate Maps <http://www.fema.gov/>
15. Federal Highway Administration. 1970. 49 CFR Part 24 - Uniform Relocation Assistance and Real Property Acquisition Policies Act.
16. Federal Highway Administration. 1998. Order 6640.23 - Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.



17. Federal Highway Administration. 2010. 23 CFR 772 – Procedures for Abatement of Highway Traffic Noise and Construction Noise. <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr:sid=1253e5cedf4b79ecfc5150fe9d7d00e7;rgn=div5;view=text;node=23%3A1.0.1.8.44;idno=23;cc=ecfr>
18. Federal Highway Administration. Section 4(f) <http://www.environment.fhwa.dot.gov/4f/index.asp>
19. Federal Transit Administration Small Starts Program http://fta.dot.gov/12347_5221.html
20. HDR Engineering, Inc. December 2007. *Laramie Transportation Study Improvement Plan*.
21. Hunt, Randy. Personal communication. Senior Planner at the City of Laramie. March 9, 2010.
22. Hydro Logic, LLC. August 18, 2010. *Wetlands and Waters of the U.S. Report*.
23. Laramie Economic Development Corporation <http://laramiewy.org/>
24. LSA Associates, Inc, BHA Design, Inc, and The Robert Steiner Company. February 2002. Laramie Downtown Revitalization and Development Plan.
25. MSE-HKM, Inc. May 1998. Laramie Bicycle Facility Master Plan.
26. National Historic Preservation Act. 1966. Section 106 Regulations. <http://www.achp.gov/106summary.html>
27. National Register of Historic Places. <http://www.nationalregisterofhistoricplaces.com/welcome.html>
28. Rosenberg Historical Consultants. September 2009. *Preliminary Report of Historical Investigations*.
29. Rosenberg Historical Consultants. April 2010. *Report of Historical Investigations*.
30. State Historic Preservation Office. Personal communication. January 2009, January 2010, August 2010, February 2011, and September 2011.
31. Stockman, Gaye. Personal communication. President and Chief Executive Officer of Laramie Economic Development Corporation. March 12, 2010.
32. The RETEC Group, Inc. August 2004. *Summary of Corrective Measures and Existing Conditions Report*.
33. University of Wyoming. <http://www.uwyo.edu/registrar/index.html>
34. US Bureau of Labor Statistics <http://www.bls.gov/>
35. US Census Bureau. 1990, 2000, 2010, and 2012. <http://www.census.gov/>
36. US Census Bureau, American Community Survey 2005 – 2007 <http://www.census.gov/acs/www/>
37. US Census Bureau. 2006 – 2010 American Community Survey <http://quickfacts.census.gov/qfd/states/56000.html>

38. US Census 2000. 2008 – 2010 American Community Survey 3-Year Estimates http://www.census.gov/newsroom/releases/archives/american_community_survey_acs/cb11-tps40.html
39. U.S. Department of Transportation. 1997. Order 5610.2 - Order to Address Environmental Justice in Minority Populations and Low-Income Populations.
40. Wyoming Center for Business and Economic Analysis, Inc. September 2008. *Economic Indicators for the Laramie Area*.
41. Wyoming Department of Environmental Quality. August 1984. *Preliminary Assessment for the Standard Oil Company Refinery*.
42. Wyoming Department of Environmental Quality. Solid and Hazardous Waste Division, Storage Tank Program. Accessed 2010 <http://deq.state.wy.us/shwd/stp/index.asp>
43. Wyoming Department of Transportation. 2004. *Laramie Area Transportation Planning Process*.
44. Wyoming Department of Transportation. August 2005, 2007, and 2010. *Statewide Long-Range Transportation Plans*.
45. Wyoming Department of Transportation. February 2010. *Contamination Investigation Letter*.
46. Wyoming Department of Transportation. July 2011. *Noise Analysis and Abatement Policy*.
47. Wyoming Oil and Gas Conservation Commission <http://wogcc.state.wy.us/>
48. Wyoming Water Development Commission. 2006. *Platte River Basin Water Plan*.