KUNA CROSSING
FEASIBILITY AND IMPLEMENTATION PLAN
DRAFT

Kuna, Idaho

February 2014
Kuna, Idaho

Prepared For:
Ada County Highway District
City of Kuna

Prepared By:
Kittelson & Associates, Inc.
101 S. Capitol Blvd., Suite 301
Boise, ID 83702
(208) 338-2683

In association with:
Parametrix

Project No. 13153

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PREFACE
The Kuna Crossing Feasibility and Implementation Plan was developed under the guidance of the Project Management Team (PMT). PMT members are identified below, along with members of the consultant team. The PMT was responsible for reviewing all work products, providing direction for the project, facilitating the Public Workshop Series and Public Informational Meeting (PIM), and making recommendations to the Kuna City Council and Ada County Highway District (ACHD) Commission for consideration during plan adoption. The PMT included representatives from ACHD, the City of Kuna, the Idaho Division of the Federal Highway Administration (FHWA), the Idaho Transportation Department (ITD), and Union Pacific Railroad (UPRR). Thank you to the following PMT members for their instrumental involvement with the development of the Kuna Crossing Feasibility and Implementation Plan.

PROJECT MANAGEMENT TEAM
Andrew Cibor, Ada County Highway District
Christy Foltz-Ahlrichs, Ada County Highway District
Jeff Lowe, Ada County Highway District
Amar Pillai, Ada County Highway District
Wendy Howell, City of Kuna
Gordon Law, City of Kuna
Ed Miltner, Federal Highway Administration, Idaho Division
Lori Porreca, Federal Highway Administration, Idaho Division
Dave Szplett, Idaho Transportation Department
Bill Ince, Union Pacific Railroad

CONSULTANT TEAM
Kittelson & Associates, Inc.
Marc Butorac, PE, PTOE – Project Principal
Andy Daleiden, PE – Project Manager
Yuri Mereszczak, PE – Project Engineer
Alison Tanaka – Project Analyst

Parametrix
Cody Janson, PE – Environmental
Kristen McCoy – Environmental
Michael Pyszka, PE – Structural

Additional thanks to Mitchell Jaurena, Ada County Highway District Commission for his involvement with this project.
A special thanks to the Kuna City Council and Ada County Highway District Commission for attending the Public Workshop Series and the PIM, and providing input and guidance during the development of the Plan.
A final thank you to any person, individual, group, agency, or participating member of the public that provided information, comments, suggestions, or their valuable time during this planning process.
SUPPORTING DOCUMENTATION

Technical memoranda were developed to summarize analyses, evaluations, and concept designs throughout the project. The technical memoranda were prepared in coordination with the PMT, stakeholders, and general public through regular meetings, the Public Workshop Series, and Public Informational Meeting (PIM). Data and information from those documents are referenced throughout the Plan, and can be found in the Technical Appendix and digitally filed at ACHD. Documents and reports developed as part of this study include:

- Project Overview Memorandum
- Public Involvement Plan
- Technical Memorandum #1: Purpose, Goals, Objectives, and Evaluation Criteria
- Technical Memorandum #2: Existing and Future Conditions
- Technical Memorandum #3: Workshop Series Summary
- Refined Evaluation Table
- Environmental Scan
- Conceptual Structure Cost Estimates
- PIM Summary
- ACHD Staff Update to Kuna City Council (October 15th)
- ACHD Staff Update to ACHD Commission (October 21st)
- PMT Meeting Agendas

Technical Appendix is a separate document and can be accessed through ACHD.
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INTRODUCTION
The purpose of the Kuna Crossing Feasibility and Implementation Plan (herein referred to as the Plan) is to identify the need, location, and feasibility of crossing the Union Pacific Railroad (UPRR) tracks and Indian Creek in the City of Kuna, Idaho. Key elements identified in the Plan include the following:
- Purpose and Need of a crossing
- Potential cumulative impacts
- Logical sequence of improvements
- Funding outline
- Process for implementation

The Plan serves as a policy document to aid in future decision-making for both the Ada County Highway District (ACHD) and City of Kuna. The Plan summarizes the feasibility of the options under consideration, but is not an assessment to comply with National Environmental Policy Act (NEPA) requirements. In order to summarize project efforts and introduce final recommendations, the Plan is organized into the following sections:
- Introduction
- Interagency and Public Involvement Program
- Background
- Options Development and Evaluation
- Feasibility Plan
- Funding and Implementation Strategy

PROJECT STUDY AREA
The City of Kuna is a community located approximately 16 miles southwest of Boise, Idaho, in Ada County. Its primary connection to the Treasure Valley is State Highway (SH) 69 (also known as Kuna-Meridian Road), which is a north-south connection between the City and Interstate 84 (I-84). Figure 1 illustrates the focus area and study intersections.

PAST STUDIES AND PLANS
This study builds upon information, feedback, and results from the Kuna Downtown Corridor Plan (KDCP) completed and adopted by ACHD and the City of Kuna in October 2012. The City of Kuna has long contemplated an overpass of the UPRR tracks and Indian Creek; efforts were undertaken in 1995 (Kuna Railroad Crossing Study, conducted by ACHD) and in 2006 (Extension of Meridian Road Proposal, conducted by ACHD, ITD, Swan Falls Development, LLC, and City of Kuna). The findings of the 1995 and 2006 studies were not adopted and/or programmed for long-term implementation. A broader evaluation of grade-separated crossing locations was recommended in the KDCP.

Eleven crossing options were identified in these previous efforts, but none of them acknowledged an adopted location, complete costs, or impacts. These studies provided a foundation and reference for potential crossing options to include with this study.

PRELIMINARY PURPOSE AND NEED
The purpose and need statement sets the stage for consideration of alternatives. The “purpose” defines the transportation problem to be solved and outlines goals and objectives that should be included as part of a successful solution to the problem. The “need” provides the basis or reason to support the problem statement (purpose).

The purpose and need statement is intended to clarify the expected outcome of public expenditure and to justify that expenditure – what are you trying to accomplish and why do you think it is necessary? As such, a preliminary purpose and need statement was developed from the technical data and analysis findings from this project effort.

This preliminary purpose and need statement provides a starting point for future efforts associated with the Plan implementation phase.

The project purpose is to provide connectivity for all modes across the UPRR tracks and Indian Creek, serve existing and future north-south traffic between Kuna and I-84, and address safety and congestion problems at the existing at-grade railroad crossings in downtown Kuna.
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The project purpose is demonstrated with the following statement of need:

- **Connectivity:** The major Principal Arterial routes between Kuna and I-84 are SH 69 to Avalon Road and Ten Mile Road to 4th Street to Avalon Road. The SH 69 route connects the north and south areas of Kuna via traveling through downtown Kuna and one at-grade railroad crossing on the south side of Indian Creek. The Ten Mile Road route does not cross Indian Creek or the UPRR railroad tracks, so transportation users must utilize 4th Street, Avenue D, Bridge Avenue, Avalon Street to cross Indian Creek and the UPRR tracks.

- **Accessibility:** The four railroad crossings in Kuna are at-grade crossings. The different transportation users (pedestrians, bicycles, autos, trucks, and emergency services) that travel through Kuna are impacted throughout the day when a train passes through town. Average delay is approximately 2.5 minutes for users at the two crossings when a train travels through downtown.

- **Travel Time Reliability:** An average of twenty trains travel through downtown Kuna daily. Given the randomness of the train arrivals and train travel through downtown, there is a variability of travel time associated with the trips (pedestrians, bicycles, autos, trucks, and emergency services) through downtown.

- **Safety:** All of the transportation modes using Avalon Road or Swan Falls Road to travel between the north and south areas of Kuna are exposed to potential conflicts with trains due to the two at-grade railroad crossings.

In addition to the above needs, economic development, land use, accommodation of future growth, and emergency services could be explored further to determine if a need statement is applicable.

**GOALS, OBJECTIVES, AND EVALUATION CRITERIA**

Goals and objectives were established by the Project Management Team (PMT), stakeholders, and the public, based on transportation-related goals in applicable transportation and land use policies and studies. The six goals associated with crossing the UPRR tracks and Indian Creek are:

- **Mobility:** Move people and provide connectivity.
- **Safety:** Minimize conflicts; improve access and response times for emergency vehicles.
- **Sustainability:** Minimize impacts to environmental, cultural, and social resources.
- **Economic Development:** Support local economic development opportunities and access to businesses.
- **Feasibility:** Ability to fund and create partnerships for implementation.
- **Constructability:** Consistency with current plans and ability to stage construction.

The goals and objectives were later used to develop evaluation criteria for screening the crossing options. The goals, objectives, and evaluation criteria used throughout the project are summarized in Table 1.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Objectives</th>
<th>Evaluation Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>▪ Decrease travel time across the railroad tracks and Indian Creek through an improvement in local circulation options.</td>
<td>▪ Does the project reduce expected travel time across the railroad tracks and Indian Creek?</td>
</tr>
<tr>
<td></td>
<td>▪ Improve level of service for all users.</td>
<td>▪ Does the project improve multimodal conditions?</td>
</tr>
<tr>
<td></td>
<td>▪ Protect or improve the function and operation of the existing roadway facilities.</td>
<td>▪ Does the project maintain existing intersection operations (level of service, delay, volume-to-capacity ratio) near the crossing?</td>
</tr>
<tr>
<td></td>
<td>▪ Accommodate freight movement.</td>
<td>▪ Does the project accommodate and improve freight connectivity?</td>
</tr>
<tr>
<td></td>
<td>▪ Connect existing neighborhoods, businesses, and public facilities.</td>
<td>▪ Does the project connect key destinations?</td>
</tr>
<tr>
<td>Safety</td>
<td>▪ Minimize conflicts at the railroad crossing for vehicles, pedestrians, and bicyclists.</td>
<td>▪ Does the project reduce conflict points for vehicles and non-motorized traffic at the railroad crossing?</td>
</tr>
<tr>
<td></td>
<td>▪ Provide improved access and response times for emergency vehicles.</td>
<td>▪ Does the project improve accessibility and response time for emergency vehicles?</td>
</tr>
<tr>
<td>Goal</td>
<td>Objectives</td>
<td>Evaluation Criteria</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sustainability</td>
<td>• Avoid geographic constraints to the greatest extent possible.</td>
<td>• Does the project impact the environment (e.g., streams, wetlands, floodplain, riparian areas, wildlife habitats, open spaces, farmlands) negatively?</td>
</tr>
<tr>
<td></td>
<td>• Avoid impacts to sensitive environmental resources to the greatest extent possible.</td>
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<tr>
<td></td>
<td>• Minimize cultural and social impacts to the greatest extent possible (such as impacts to community facilities and institutions, property takings, and displacement of existing businesses and residences).</td>
<td>• Does the project impact existing developments (e.g., property acquisitions, socioeconomic impacts, historical buildings, noise/air impacts)?</td>
</tr>
<tr>
<td>Economic Development</td>
<td>• Support local economic development opportunities.</td>
<td>• Does the project support or impact future economic development opportunities?</td>
</tr>
<tr>
<td></td>
<td>• Provide appropriate access to businesses and land uses near the crossing.</td>
<td>• Does the project provide reasonable access to businesses and land uses near the crossing?</td>
</tr>
<tr>
<td></td>
<td>• Provide connectivity for projected growth areas.</td>
<td>• Does the project provide access and connectivity to projected growth areas?</td>
</tr>
<tr>
<td>Feasibility</td>
<td>• Identify relative magnitude of design and construction costs and benefits.</td>
<td>• Is the overall cost of the project restrictive?</td>
</tr>
<tr>
<td></td>
<td>• Identify potential funding options for the proposed improvements.</td>
<td>• Are there potential funding sources for the project?</td>
</tr>
<tr>
<td></td>
<td>• Develop state, regional, and local partnerships to fund and implement the proposed improvements.</td>
<td>• Are there potential partners for implementing the project?</td>
</tr>
<tr>
<td></td>
<td>• Gather support from local businesses, residents, members of the public, and affected stakeholders.</td>
<td>• Is there community support for the project?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Are there potential obstacles to the project (e.g., permitting, right-of-way acquisition, utility relocations)?</td>
</tr>
<tr>
<td>Constructability</td>
<td>• Coordinate with existing land use and transportation plans.</td>
<td>• Is the project consistent with adopted plans and policies?</td>
</tr>
<tr>
<td></td>
<td>• Consider staged and/or development-related construction.</td>
<td>• Can the project be constructed in multiple phases (to preserve the function of the existing infrastructure)?</td>
</tr>
</tbody>
</table>

**PLAN DEVELOPMENT PROCESS**

The Plan effort was initiated in May 2013, and completed with consideration for plan adoption in February 2014. Figure 2 illustrates the Plan development process, which is described in more detail throughout this document.

**Figure 2. Plan Development Process**
During a preliminary review of previous plans and studies, the project team identified 11 crossing options, which were presented at the Public Workshop Series in July 2013. Based on input from the PMT, stakeholders, and general public, those 11 options were expanded to include six additional options, for a total of 17 initial options. Those 17 options were taken through two levels of screening during the project.

The first level of screening utilized a qualitative approach based on the goals identified in Table 1. The four most promising options were identified for further refinement and evaluation through this screening process. The four most promising options were then taken through a second level of screening that applied a more detailed quantitative and qualitative approach based on the evaluation criteria. This final screening facilitated the selection of a preferred option, which was advanced through the development of a feasibility plan and implementation strategy.

INTERAGENCY AND PUBLIC INVOLVEMENT PROGRAM

WHO’S INVOLVED?
Public involvement and agency coordination during the development of the Plan was critical for Plan acceptance and adoption by ACHD and the City of Kuna. The following groups were involved in the development process:

- Project Team: Including consultant staff from Kittelson & Associates, Inc. (KAI) and Parametrix, Inc. and key ACHD staff (Project Manager, Planning & Programming Department staff, and Communication Department staff).
- Project Management Team (PMT): Including the project team, additional ACHD staff, City of Kuna staff, Idaho Transportation Department (ITD) staff, UPRR representative, and Federal Highway Administration (FHWA) representatives.
- Stakeholders: Including the PMT, representatives from key community organizations and businesses, and property owners and tenants within the vicinity of potential crossing locations.
- Elected Officials: Including Kuna City Council and ACHD Commission members.
- General Public

PROJECT MANAGEMENT TEAM
The PMT advised the project team on the technical elements of the project, and made the final decisions regarding the overall project direction, based on input from the project team and general public. The PMT participated in four meetings occurring on June 6th, August 7th, October 7th, and November 12th, 2013, in addition to the Public Workshop Series in July 2013 and public informational meeting (PIM) in September 2013.

PUBLIC WORKSHOP SERIES
The Public Workshop Series held in July 2013 was the core of the public involvement process for the Plan. On Day 1, crossing options were developed by the PMT, stakeholders, and general public during alternatives development sessions. Days 2 and 3 involved project team work sessions (open for drop-in by stakeholders and the general public) to further develop and evaluate the initial options. At the end of Day 3, a final work session was held with the public and stakeholders to present the evaluation of initial options and collaboratively identify the four most promising options to carry forward for further refinement. The public comment period lasted for two weeks after the Public Workshop Series. Table 2 provides a complete schedule for the workshop series, including the activities that took place during each meeting. For the workshop series, approximately 52 people attended Day 1, 18 people attended Day 2, and 34 people attended Day 3. A total of 84 comments were received from the Public Workshop Series.
### Table 2. Workshop Series Schedule

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date &amp; Time</th>
<th>Purpose/Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day 1</strong></td>
<td></td>
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</tbody>
</table>
| Coordination Meeting (Project Management Team)    | Tuesday, July 9, 2013 9:00 a.m. to 11:00 a.m. Kuna High School | Workshop Series Overview & Preparation  
Existing and Future Conditions Overview |
| Initial Alternatives Development Session #1 (General Public) | Tuesday, July 9, 2013 12:00 p.m. to 2:00 p.m. Kuna High School | Project Overview and Background  
Existing and Future Conditions Overview  
Alternatives Development Workshop |
| Initial Alternatives Development Session #2 (General Public) | Tuesday, July 9, 2013 5:30 p.m. to 7:30 p.m. Kuna High School | Same agenda and format as Initial Alternatives Development Session #1  
Intended to provide alternative time for interested parties to participate |
| **Day 2**                                         |                                      |                                                                                     |
| Key Stakeholder Session #1                        | Wednesday, July 10, 2013 10:30 a.m. to 12:00 p.m. Kuna High School | Project Overview  
Discuss key issues with stakeholders  
Focused meeting with key stakeholders; public is welcome to attend |
| Key Stakeholder Session #2                        | Wednesday, July 10, 2013 1:30 p.m. to 3:00 p.m. Kuna High School | Project Overview  
Discuss key issues with stakeholders  
Focused meeting with key stakeholders; public is welcome to attend |
| Project Team Work Session (Public Drop-in)        | Wednesday, July 10, 2013 9:00 a.m. to 6:00 p.m. Kuna High School | Project team work session on alternatives development; public is welcome to stop by and visit with the project team. |
| **Day 3**                                         |                                      |                                                                                     |
| Coffee Session (Project Management Team)          | Thursday, July 11, 2013 9:00 a.m. to 10:30 a.m. Kuna High School | Overview of Day #1 and #2 Activities & Alternatives Development Sessions  
Review of Day #3 Agenda |
| Project Team Work Session (Public Drop-in)        | Thursday, July 11, 2013 9:00 a.m. to 4:00 p.m. Kuna High School | Project team work session on alternatives development; public is welcome to stop by and visit with the project team. |
| Identification of Most Promising Alternatives (General Public) | Thursday, July 11, 2013 5:30 p.m. to 7:30 p.m. Kuna High School | Review Evaluation Matrix of Initial Alternatives  
Alternatives Refinement Workshop  
Identification of Most Promising Alternatives |
PUBLIC INFORMATIONAL MEETING
The public informational meeting (PIM) was held on September 5, 2013; to offer the general public the opportunity to review and comment on the initial rankings of the four most promising options and elements to be included in the Plan. The public comment period lasted for two weeks following the PIM. The rankings and comments were used by the PMT to identify a single preferred option.

NOTIFICATIONS
ACHD developed meeting mailers and newspaper advertisements for both the Public Workshop Series and PIM. The mailers and advertisements introduced the project, overall schedule, and identified the meeting dates and locations. The mailers were sent to all residents and businesses within the study area, while newspaper advertisements were placed in the Idaho Statesman and Kuna-Melba News. An email announcement was sent out to the PMT regarding the Public Workshop Series and PIM. Additionally, sandwich boards were posted at four locations in the City of Kuna announcing the Public Workshop Series and PIM.

PROJECT WEBSITE
ACHD maintained a project website throughout the project. The site is located on ACHD’s projects page with an address of http://www.achdidaho.org/Projects/. Project announcements and materials from the Public Workshop Series and PIM were posted and available to the public.

UPDATES/PLAN ADOPTION
ACHD provided project updates to the City of Kuna Council and ACHD Commission in October 2013. The Technical Appendix includes the staff briefings used for the project updates. Plan adoption occurred on February 4, 2014 for the City of Kuna and February 5, 2014 for ACHD.

BACKGROUND
This section summarizes background information that was used during the initial options development process. This information was presented to the public during the Public Workshop Series, and was available for review at the PIM.

EXISTING CONDITIONS
The existing conditions assessment established baseline conditions for reference during the future conditions analysis and next steps of the project. It included a planning-level review of the following items: general transportation facilities, traffic operations at key intersections, field inventory of railroad operations, and an environmental scan.

Transportation Facilities
A review of the existing transportation facilities was conducted, in conjunction with field visits in June and July 2013.

Roadway Facilities
The roadway facilities in the project focus area are mostly arterials arranged in a grid network. Along the study roadways, there are currently four existing at-grade crossings of the UPRR tracks and three existing bridges over Indian Creek. Figure 3 illustrates the existing transportation facilities in the study area. The at-grade railroad crossings located along Swan Falls Road (two separate, closely-spaced crossings), Bridge Avenue, and Stroebel Road all have gates installed, but the crossing on Black Cat Road only has stop signs. The Indian Creek bridges are located along Bridge Avenue, Stroebel Road, and Swan Falls Road (as shown in the photos below).
Railroad Facilities

The UPRR segment that runs through the City of Kuna is part of the Northwest Corridor within the Nampa UPRR Subdivision (238.6 miles). The Northwest Corridor carries double-stack containers, many destined for West Coast ports and foreign markets or towards Chicago and domestic distribution, but none are loaded or unloaded on UPRR’s system in Idaho. According to UPRR, the three lines on the Northwest Corridor see an average of seven intermodal trains per day out of approximately 20 daily trains, or 35% of all traffic; none of these seven intermodal trains stop in Idaho (Reference 1).

UPRR maintains an existing rail yard in downtown Kuna, located approximately 200 feet west of Bridge Avenue to approximately 700 feet east of Kuna-Meridian Road. The total length is approximately 10,000 feet (or just under two miles). The main area of the yard is between Bridge Avenue and Swan Falls Road, where it becomes three tracks. The yard is used to allow trains to pass and for trains to drop off and pick up railroad cars (Reference 2).

The UPRR right-of-way (ROW) extends approximately 100 feet on either side of the tracks for most of the segment near Kuna (as shown in Figure 3). However, the ROW does widen near downtown Kuna and spans across Indian Creek to include the Greenbelt area. The Technical Appendix includes more specific information about the UPRR ROW.

Land Use

Figure 4 shows existing land use zoning and points of interest within the study area. Emergency response services were of particular interest, considering the goals of the project. The Kuna Fire District Station and Kuna City Police Department are located north of the railroad tracks (as depicted in Figure 5). The Sheriff’s Department has reported that “there is no significant difference in response times to calls for service north and south of the railroad tracks except for Code 2 calls. The Department cannot state that the railroad is the cause of the difference” (Reference 3). However, the longer distances to destinations south of the tracks could be a contributing factor to the longer response times. The Fire District noted that most calls occur north of the tracks.
Figure 3

Existing Transportation Facilities

Source: ACHD GIS Database; ACHD Roadways to Bikeways Plan; COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database
Figure 4

Existing Land Use and Zoning

Roadway Classifications
- Arterial Streets
- Collector Streets
- Local Streets

Community Features
- Railroad
- Commercial
- Office
- Manufacturing
- Public

Zoning Designations
- Residential
- Single Family Res.
- Low Density Res.
- Medium Density Res.
- High Density Res.
- High Density Multi-Family Res.
- Public
- Rural Residential
- Rural Urban Transition

Points of Interest
- Cemetery
- Civic Use
- Library
- Medical Use
- Place of Worship
- School
- Shopping Center

Source: Ada County Assessor (GIS Files from ACHD GIS Database); Field Review (September 2011); COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Kuna Crossing Feasibility and Implementation Plan
Environmental

An environmental scan was performed by members of the project team through an at-the-desk/office review of the environmental features in the study area. (No field work was performed with this scan.) The scan identified the following key environmental findings.

- There are eight public parks (Butler Park, Community Garden, Heritage Park, Colonel Bernard Fisher Veteran’s Memorial Park, City Park, Nicholson Park, Sadie Creek Park, and Winchester Park) within the study area. There are several other recreation facilities within the study area.
- The State Historic Preservation Office indicated that there are no listed historical places in the study area.
- Based on 2010 data from the U.S. Census Bureau, the socioeconomic characteristics of Kuna include a population of 15,210 people, 5,108 housing units, a median household income of $53,387, a per capita income of $17,889, and persons below poverty line at 11.9%. The majority of the population is white (93.4%) with a small percentage (1.1%) of American Indian and Alaska Native. Additionally, there are a few mobile home parks (including the Swan Falls Mobile Home Center near Avalon Street and School Street) located within the study area and near the UPRR tracks.
- All of the Environmental Protection Agency (EPA)-identified possible hazardous materials sites (five in total) are either in compliance or inactive/closed.
- The Idaho Department of Environmental Quality’s (IDEQ) database indicated that there are nine locations with Underground Storage Tanks (UST) and no locations with Leaking Underground Storage Tanks (LUST).
- Five threatened/endangered species were identified for Ada County. However, these species are unlikely to be found in the habitat within the study area.
- Over 50% of the study area is considered “Prime Farmland if Irrigated.”
- Based on a review of the National Wetland Inventory maps, no wetlands were identified in the study area, with the exception of those located along creeks and canals.
- A 100-year FEMA floodplain is located adjacent to Indian Creek. This is the only floodplain located within the study area (shown in Figure 3).
- The Kuna Cemetery is located at the southwest corner of School Avenue and Boise Street.
- Any future construction of a crossing is likely to require several permits, including the NPDES Construction General Stormwater Permit, Clean Water Act Section 404 Permit, Section 401 Water Quality Certification, and Irrigation License Agreement(s), as well as local permits for the crossing such as a right-of-way, grading, and/or building permits.
Future coordination (after development of the Plan) is recommended with the different resource agencies, especially if federal funds are used for design and construction of the project.

Existing Volumes and Operations

Traffic Conditions

Turning movement counts taken between September 2011 and May 2013 were used to analyze intersection weekday p.m. peak hour operations for existing conditions. As summarized in Figure 6, all of the study intersections meet ACHD level of service (LOS) standards, with the exception of the Swan Falls Road/Avalon Street intersection. The Swan Falls Road/Avalon Street intersection operates at a volume-to-capacity (v/c) of 0.70 and LOS F during the weekday p.m. peak hour due to the delay for vehicles turning left from Swan Falls Road onto Linder Avenue.

Figure 6 also shows average daily traffic (ADT) volumes recorded by ACHD along the study roadways. These volumes were adjusted to reflect year 2013 conditions based on a historical growth rate of 2.7 percent, which is consistent with projected growth identified in the regional travel demand model (TDM).

Railroad Conditions

Based on field work collected for the KDCP (Reference 4), recent field work collected in July 2013, discussions with UPRR representatives, and data provided by ITD, a summary of train activity and general operations at the two at-grade crossings (Bridge Avenue and Swan Falls Road) in downtown Kuna is presented below:

- Train activity ranges between 10 and 39 trains per day, with an average of 20 trains occurring per day (Data from ITD; Reference 1).
- The train speeds through these crossings range between 40 miles per hour (mph) and 70 mph.
- There was one reported minor vehicle/train crash at the Swan Falls crossing in 1975. No crashes have been reported since that time.
- There was one fatal vehicle/train crash (involving three people) at the Bridge Avenue crossing in 1988. No fatal crashes have been reported since that time.
- There have been four non-fatal, train-related crashes near the Bridge Avenue crossing in the last ten years (according to the Ada County Sheriff’s Office IMPACT Crash Database).
  - Three rear-end collisions have occurred (two southbound and one northbound) at the crossing due to a train crossing or a school bus stopping at the tracks (without a train crossing).
  - A fourth collision occurred when a single vehicle “bottomed out” on the tracks causing under-carriage damage.
- Train length ranges between 9 and 150 cars (approximately one to two miles in length depending on train car lengths).
- From the ITD Draft Idaho Statewide Rail Plan (Reference 1), this segment of the Northwest Corridor currently operates at a Railroad LOS of C or better, which corresponds to a v/c ratio of 0.7 or less (i.e., low to moderate train flows).

In July 2013, field observations of train activity were conducted from 7:00 a.m. to 6:30 p.m. at the existing west (Bridge Avenue) and east (Swan Falls Road) at-grade railroad crossings in downtown Kuna. Table 3 summarizes the field observations.

As shown in Table 3 (on page 17), 12 trains were observed during this observation time period, with train lengths ranging between nine and 120 cars (but lengths can be up to 150 cars). On average, vehicles waited approximately 2.5 minutes at the two crossings when a train traveled through downtown. Additionally, average vehicle queues were observed to be approximately eight vehicles on both sides of the two crossings. There were several instances where vehicle queues were observed to be greater than 10 vehicles and spilled back to the adjacent cross streets. Other observations included pedestrian, bicycle, and truck activity at the two crossings. Approximately 50 pedestrians/bicyclists and 40 trucks were observed crossing the railroad tracks during this 11-hour time period.
Figure 6: Existing Traffic and Railroad Conditions

Roadway Classifications
- Arterial Streets
- Collector Streets
- Local Streets

Community Features
- Railroad

Intersection Level of Service (Weekday PM Peak Hour)
- Meets ACHD LOS Standard
- Available Capacity But Does Not Meet ACHD LOS Standard

Traffic Volumes
- Daily Volumes
  - Average Daily Traffic Volume (24-hour average traffic volume in both directions)
- Average Daily Train Activity

Source: ACHD Traffic Counts Database; Idaho Transportation Department; ACHD GIS Database; COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database
Table 3. Existing Train Activity and Operations at Existing West (Bridge Avenue) and East (Swan Falls Road) Crossings

<table>
<thead>
<tr>
<th>Time of Train Arrival</th>
<th>Number of Train Cars Observed</th>
<th>Train Travel Time (Minutes: Seconds)</th>
<th>Time of Gates Down (Minutes: Seconds)</th>
<th>Queue Length (Number of Vehicles)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>West Crossing (Bridge Avenue)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Northbound</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>East Crossing (Swan Falls Road)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Northbound</td>
</tr>
<tr>
<td>9:12 AM</td>
<td>95</td>
<td>3:05</td>
<td>3:35</td>
<td>14</td>
</tr>
<tr>
<td>9:18 AM</td>
<td>80</td>
<td>2:35</td>
<td>3:00</td>
<td>11</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>120</td>
<td>2:35</td>
<td>3:00</td>
<td>6</td>
</tr>
<tr>
<td>10:52 AM</td>
<td>120</td>
<td>2:40</td>
<td>3:15</td>
<td>4-6*</td>
</tr>
<tr>
<td>11:54 AM</td>
<td>20</td>
<td>0:20</td>
<td>0:50</td>
<td>6</td>
</tr>
<tr>
<td>14:23 PM</td>
<td>9</td>
<td>0:10</td>
<td>0:30</td>
<td>2</td>
</tr>
<tr>
<td>15:35 PM</td>
<td>120</td>
<td>1:40</td>
<td>2:10</td>
<td>8</td>
</tr>
<tr>
<td>16:35 PM</td>
<td>120</td>
<td>1:35</td>
<td>2:10</td>
<td>5</td>
</tr>
<tr>
<td>17:15 PM</td>
<td>95</td>
<td>2:10</td>
<td>2:40</td>
<td>6</td>
</tr>
<tr>
<td>17:45 PM</td>
<td>65</td>
<td>1:00</td>
<td>1:35</td>
<td>9</td>
</tr>
<tr>
<td>17:53 PM</td>
<td>110</td>
<td>2:20</td>
<td>2:55</td>
<td>11</td>
</tr>
<tr>
<td>18:20 PM</td>
<td>20</td>
<td>0:55</td>
<td>1:05</td>
<td>5</td>
</tr>
<tr>
<td>Average</td>
<td>88</td>
<td>1:52</td>
<td>2:29</td>
<td>8</td>
</tr>
<tr>
<td>Range</td>
<td>9-120</td>
<td>0:20-3:05</td>
<td>0:50-3:35</td>
<td>2-14</td>
</tr>
</tbody>
</table>

*Observed from another crossing point, and therefore based on cars entering the crossing after the train cleared.

YEAR 2035 CONDITIONS

The future conditions analysis provided a basis for comparing the options that were developed as part of the project.

Future Volumes and Operations

Traffic Conditions

The year 2035 regional TDM was used to identify population and employment characteristics, as well as develop year 2035 forecast traffic volumes on the study roadways and at the study intersections. Figure 7 shows the results of the future year 2035 conditions operations analysis. There are four intersections that do not meet ACHD LOS standards and have v/c ratios above 1.0:

- Bridge Avenue /Avalon Street/Shortline Street
- Avenue D/Main Street
- Swan Falls Road/Avalon Street
- SH 69/Kuna Road

There are three intersections that do not meet ACHD LOS standards, but they have available capacity with v/c ratios less than 1.0:

- Ten Mile Road/Deer Flat Road (Based on conversations with ACHD staff, this intersection is anticipated to be converted to an all-way stop-controlled intersection by the year 2035. With an all-way stop-controlled intersection, this intersection is projected to operate with an acceptable LOS and v/c ratio.)
- School Avenue/Avalon Street
- Linder Avenue/1st Street/Main Street/3rd Street (This intersection is currently under design for a single lane roundabout by ACHD with construction planned for 2016.)

Although the above intersections are projected to not meet ACHD LOS standards, the recently adopted KDCP identifies that the intersections within the downtown area will meet ACHD LOS standards with the recommended intersection improvements. With these improvements, only the SH 69/Kuna Road intersection (no improvements identified) is still projected to not meet ACHD LOS standards and have a v/c ratio above 1.0.

Railroad Conditions

From the ITD Draft Idaho Statewide Rail Plan (Reference 1), the segment of the UPRR Northwest Corridor that travels through the City of Kuna is projected to operate at a Railroad LOS of F in year 2040, which corresponds to a v/c over 1.0 (i.e., service break-down conditions). By year 2040, a demand of 52 trains per day is anticipated on the UPRR.
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Year 2035 Traffic Conditions

### Roadway Classifications
- **Arterial Streets**: Meets ACHD LOS Standard
- **Collector Streets**: Available Capacity But Does Not Meet ACHD LOS Standard
- **Local Streets**: Does Not Meet ACHD LOS Standard

### Community Features
- **Daily Volumes**
  - Average Daily Traffic Volume (24-hour average traffic volume in both directions)
  - Average Daily Train Activity

### Traffic Conditions in Year 2035 Based on Kuna Downtown Corridor Plan Recommendations

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Average Daily Traffic Volume (24-hour average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hubbard Rd</td>
<td>11100</td>
</tr>
<tr>
<td>Deer Flat Rd</td>
<td>25000</td>
</tr>
<tr>
<td>King Rd</td>
<td>8900</td>
</tr>
<tr>
<td>Robinson Rd</td>
<td>10800</td>
</tr>
<tr>
<td>4th St</td>
<td>20900</td>
</tr>
<tr>
<td>Union Pacific Railroad</td>
<td>10-52 Trains Per Day (Year 2040)</td>
</tr>
</tbody>
</table>

- **10-52 Trains Per Day (Year 2040)**

Source: ACHD 2035 TDM; ACHD GIS Database; COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database

February 2014
OPTIONS DEVELOPMENT AND EVALUATION

The options development process began at the Public Workshop Series in July 2013, and was refined throughout the PIM in September 2013 and several PMT meetings through November 2013.

EVALUATION CRITERIA

Evaluation criteria, associated with the six project goals, were used by the project team to compare the different options. (Detailed descriptions of the evaluation criteria are provided in Table 1.) The evaluation results were provided to the public for their decision-making and feedback, as well as used by the project team to assess whether an option should move forward in the evaluation process.

The public responses identified safety (30% of 139 responses), mobility (27% of 139 responses), and economic development (17% out of 139 responses) as the top three evaluation criteria. The other three criteria received 10% or less support.

EVALUATION PROCESS

As shown in Figure 8, 17 initial options were identified and evaluated by the participants at the public workshop series. Participants were asked to decide whether they liked, maybe liked, or disliked each option. The 17 initial options are illustrated in Figure 9.

Figure 8. Options Development and Evaluation Process

Using the evaluation criteria, the project team ranked the 17 initial options as good, fair, or poor. Based on these rankings and feedback from the public, the project team made preliminary recommendations to advance, possibly advance, or not advance each option for further review. These recommendations were shared with the public on the final day of the Public Workshop Series. The public was given the opportunity to agree or disagree with the project team recommendations.

Based on feedback from the Public Workshop Series, the four most promising options were identified. These options were advanced and further evaluated, as described throughout the next sections. At the PIM in September 2013, participants were asked to rank the most promising options and provide additional comments. The feedback from the PIM was ultimately used by the PMT to choose a preferred option.
Figure 9

Initial Options

ROADWAY CLASSIFICATIONS
Arterial Streets
Collector Streets
Local Streets
Railroad

COMMUNITY FEATURES

INITIAL OPTIONS FROM PAST STUDIES
Option 1: Hubbard Road Extension
Option 2: Deer Flat Road Extension
Option 3: Ten Mile Road Extension
Option 4: School Avenue Extension
Option 5: Bridge Avenue
Option 6: Avalon Street to Avalon Street
Option 7: Swan Falls Road
Option 8: SH 69 Extension
Option 9: Stroebel Road
Option 10: Relocate Union Pacific Railroad (UPRR) Switch Yard
Option 11: Locate an Emergency Services Station South of Tracks
Option 12: Kay Avenue Extension
Option 13: Ardell Road Extension
Option 14: Ped/Bike Only Bridge at Bridge Avenue
Option 15: Ped/Bike Only Bridge at Bridge Avenue
Option 16: Elevate UPRR Tracks to Provide North-South Connectivity

Source: ACHD 1995 Rail Study; City of Kuna 2006 Rail Study; ACHD Kuna Downtown Corridor Plan; ACHD GIS Database; COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database

Figure 9

Hubbard Rd
Deer Flat Rd
Kuna Rd
Locust Grove Rd
Kuna Crossing Feasibility and Implementation Plan
February 2014

Options Not Shown on Map
Option 0: No-Build
Option 10: Relocate Union Pacific Railroad (UPRR) Switch Yard
Option 11: Locate an Emergency Services Station South of Tracks
Option 14: Realign UPRR Line Around Kuna
Option 16: Elevate UPRR Tracks to Provide North-South Connectivity

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

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Figure 9

Hubbard Rd
Deer Flat Rd
Kuna Rd
Locust Grove Rd
Kuna Crossing Feasibility and Implementation Plan
February 2014

Options Not Shown on Map
Option 0: No-Build
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SCREENING #1 – INITIAL OPTIONS
The four most promising options (of the 17 initial options) identified during the Public Workshop Series included:
- Option 3: Ten Mile Road Extension
- Option 6: Avalon Street to Avalon Street
- Option 7: Swan Falls Road to Linder Road
- Option 8: Meridian Road Extension

Table 4 provides an overview of how the project team ranked the options during the first level of screening. While responders were supportive of moving Option 11: Locate an Emergency Services Station South of Tracks to a recommended option, it was not carried forward as part of the Plan. ACHD does not have jurisdiction over emergency services; the recommendation to the fire district and emergency services providers is to incorporate a service station in their facility planning efforts.

Table 4. Preliminary Evaluation Results of the Initial Options

<table>
<thead>
<tr>
<th>Option Number</th>
<th>Description</th>
<th>Mobility</th>
<th>Safety</th>
<th>Sustainability</th>
<th>Economic Development</th>
<th>Feasibility</th>
<th>Constructability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No-Build</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Hubbard Road Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Deer Flat Road Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Ten Mile Road Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>School Avenue Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Bridge Avenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Avalon Street to Avalon Street</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Swan Falls Road to Linder Road</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Meridian Road Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Stroebel Road</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Relocate Union Pacific Railroad Switch Yard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Locate an Emergency Services Station South of the railroad tracks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Kay Street Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Ardell Road Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Realign Union Pacific Railroad Line Around Kuna</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Ped/Bike Only Bridge at Bridge Avenue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Elevate Union Pacific Railroad Tracks to Provide North-South Connectivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Orchard Avenue Extension</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Represents options to carry forward
Represents options to not carry forward

Good  Fair  Poor
SCREENING #2 – MOST PROMISING OPTIONS
The four most promising options were further evaluated after the Public Workshop Series. Two alignment options were developed for Option 7: Swan Falls Road to Linder Road (Options 7A and 7B), and Option 0: No-Build was included in the evaluation of the most promising options. This resulted in a total of six options (depicted in Figures 10-15).

- Option 0: No-Build
- Option 3: Ten Mile Road Extension
- Option 6: Avalon Street to Avalon Street
- Option 7: Swan Falls Road to Linder Road
  - Option 7A – Shortline Street At-Grade Realignment with Stagecoach Way
  - Option 7B – Shortline Street Underpass Realignment to Stagecoach Way
- Option 8: Meridian Road Extension

Design concepts were developed for each of these options to allow for a more detailed comparison. The options were evaluated further based on the following parameters:

- Length of bridge structure (if required)
- Number of property acquisitions
- Preliminary cost estimate
- Change in traffic volumes on study roadways

Table 5 summarizes these items for the most promising options. This information was used to refine the evaluation results from the Public Workshop Series (also summarized in Table 5). The information in Table 5 was provided to the public during the September 2013 PIM for their decision-making and feedback.

In addition to the adjusted evaluation results for the most promising options, Table 5 summarizes the rankings the public and the PMT assigned to the crossing options. PIM results showed public support for Option 3: Ten Mile Road Extension, Option 7: Swan Falls Road to Linder Road, and Option 8: Meridian Road Extension. Option 0: No-Build and Option 6: Avalon Street to Avalon Street were least supported by the public. Project updates about these results were presented to the City Council and ACHD Commission in October 2013.

The PMT met in October and November 2013 to discuss the evaluation results of Options 3, 7, and 8. Each option was further reviewed based on local and regional connectivity, cost, funding, regional priorities, and public and community support. Option 8: Meridian Road Extension was discarded, as it was determined that it does not address the problem with the existing at-grade crossings or reduce the traffic volumes or vehicle/train exposure using the two at-grade crossings in the downtown area. This option could have a long-term benefit (outside the planning horizon) to the community, but does not address the immediate problem in the downtown area.

Option 7: Swan Falls Road to Linder Road provides a grade-separated crossing in downtown; removes an existing at-grade crossing of the UPRR tracks; connects emergency services between the north and south areas of the City; and maintains connectivity for the greenbelt (can go under the new bridge). Additionally, UPRR could potentially be a funding partner, since the grade-separated crossing removes an existing at-grade crossing. This option results in minimal changes to traffic patterns and does not provide a direct regional connection for the community. As identified in Table 5, this option has impacts to eight to nine properties and an estimated cost of $13.5 to $18.5 million.

The PMT selected Option 3: Ten Mile Road Extension as the preferred option due to its strong ranking among the other options and its ability to provide the area with a regional connection on Ten Mile Road between Kuna and I-84. The PMT considered the following factors for this option:

- provides a regional connection that benefits Kuna, Meridian, and Ada and Canyon Counties;
- captures a high percentage of traffic volumes traveling from the west on Avalon Street to SH 69;
- reduces vehicle/train exposure using the existing two at-grade crossings in the downtown;
- addresses the connectivity for emergency services between the north and south areas of the City;
- provides opportunity for expanded growth in and around the Ten Mile Road area; and
- results in the lowest estimated cost ($11.5 to $14 million) of the different options.

Similar to other options, this option has impacts to nine properties adjacent to the crossing, as well as the sewer lift station located south of the UPRR tracks and Indian Creek on Ten Mile Road.

PUBLIC HEARINGS
### Table 5. Most Promising Options Evaluation Results and Design and Operations Comparison

<table>
<thead>
<tr>
<th>Option No.</th>
<th>Description</th>
<th>Public Comment Ranking</th>
<th>Mobility</th>
<th>Safety</th>
<th>Sustainability</th>
<th>Economic Development</th>
<th>Feasibility</th>
<th>Public Comment</th>
<th>PMT Ranking</th>
<th>Mobility</th>
<th>Safety</th>
<th>Sustainability</th>
<th>Economic Development</th>
<th>Feasibility</th>
<th>Potential Full Property Acquisitions*</th>
<th>Preliminary Cost Estimate (Millions)</th>
<th>Bridge Structure Length (Feet)</th>
<th>Estimated Changes in Year 2035 Traffic Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No-Build</td>
<td>6</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>□ No Change</td>
<td>$0</td>
<td>N/A</td>
<td>□ No Change</td>
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<tr>
<td>3</td>
<td>Ten Mile Road Extension</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>625</td>
<td>9</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□ 58% Increase on Ten Mile Road (S of Hubbard)</td>
<td>□ 24% Decrease on Main Street and Shortline Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Avalon Street to Avalon Street</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1,100</td>
<td>3</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□ 9% Decrease on Linder Road (S of Hubbard)</td>
<td>□ 1% Decrease on SH 69 (S of Hubbard)</td>
<td></td>
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<tr>
<td>7A</td>
<td>Swan Falls Road to Linder Road (Short-Line Street At-Grade Realignment with Stagecoach Way)</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>600</td>
<td>9</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□ 2% Decrease on Ten Mile Road (S of Hubbard)</td>
<td>□ 15% Decrease on Main Street and Shortline Street</td>
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</tr>
<tr>
<td>7B</td>
<td>Swan Falls Road to Linder Road (Shortline Street Underpass Realignment to Stagecoach Way)</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>700</td>
<td>8</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□ 2% Decrease on Ten Mile Road (S of Hubbard)</td>
<td>□ 15% Decrease on Main Street and Shortline Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Meridian Road Extension</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>400 (Creek Crossing) + 500 (Railroad Crossing)</td>
<td>1</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□ No Change</td>
<td>□ 4% Decrease on Main Street and Shortline Street</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Note: Any acquisitions would be further refined as part of the environmental and/or design stages.

1 Assumes piers placed in UPRR ROW.
2 Assumes a signature span bridge.
Figure 10: Option 0: No-Build

Roadway Classifications:
- Arterial Streets
- Collector Streets
- Local Streets

Community Features:
- Railroad

Source: ACHD 1995 Rail Study; City of Kuna 2006 Rail Study; ACHD Kuna Downtown Corridor Plan; ACHD GIS Database; COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database

February 2014

Kuna Crossing Feasibility and Implementation Plan
Option 3: Ten Mile Road Extension

Roadway Classifications:
- Arterial Streets
- Collector Streets
- Local Streets

Community Features:
- Railroad

Source: Esri, DigitalGlobe, Geocaly, USDA, USGS, AEX, Getmapping, App舆, ONX, iGP, and the GIS User Community
Figure 12: Option 6: Avalon Street to Avalon Street

Roadway Classifications
- Arterial Streets
- Collector Streets
- Local Streets

Community Features
- Railroad

Design Features
- Bridge Structure
- Fill Area
- Roadway Area
- Potential Full Property Acquisitions
- Approximate Floodplain
- Approximate UPRR Right-of-Way
- Approximate ACHD Right-of-Way

Source: ACHD GIS Database; City of Kuna 2006 Rail Study; ACHD Kuna Downtown Corridor Plan; ACHD-GIS Database; COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database
Option 7A: Shortline Street At-Grade Realignment with Stagecoach Way

Roadway Classifications
- Arterial Streets
- Collector Streets
- Local Streets

Community Features
- Railroad

Design Features
- Bridge Structure
- Fill Area
- Roadway Area
- Potential Full Property Acquisitions
- Approximate Floodplain
- Approximate UPRR Right-of-Way
- Approximate ACHD Right-of-Way

Source: ACHD 1995 Rail Study; City of Kuna 2006 Rail Study; ACHD Kuna Downtown Corridor Plan; ACHD GIS Database; COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database

Figure 13
Option 7B: Shortline Street Underpass Realignment to Stagecoach Way

Source: Achd 1995 Rail Study; City of Kuna 2006 Rail Study; Achd Kuna Downtown Corridor Plan; Achd-gis Database; Compass 2015 Federal Functional Classification Map; Canyon County Sis Database

Figur e 14
Figure 15

Option 8: Meridian Road Extension

Roadway Classifications
- Arterial Streets
- Collector Streets
- Local Streets

Community Features
- Railroad

Design Features
- Bridge Structure
- Fill Area
- Roadway Area
- Potential Full Property Acquisitions
- Approximate Floodplain
- Approximate UPRR Right-of-Way
- Approximate ACHD Right-of-Way

Source: ACHD 1995 Rail Study; City of Kuna 2006 Rail Study; ACHD Kuna Downtown Corridor Plan; ACHD GIS Database; COMPASS 2015 Federal Functional Classification Map; Canyon County GIS Database

Option 8: Meridian Road Extension

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
On January 21, 2014, the Kuna City Council convened a hearing to receive testimony from the public and to consider the recommendations and options as outlined in the Plan. The Council deferred a decision on the Plan to February 4, 2014, and subsequently selected Option 7A: Swan Falls Road to Linder Road as the preferred alignment. The Council considered the factors presented and determined that Option 7A provides north/south connectivity for residents and emergency services; the location near downtown has little impact on Main Street traffic; the alignment is commensurate to the planned growth and; allows for certainty in development efforts.

On February 5, 2014, the ACHD Commission held a hearing to receive testimony from the public, to consider the options as outlined in the Plan, and to recognize the recommendation made by the Kuna City Council. The Commission acted to adopt the Plan as presented with Option 7A: Swan Falls Road to Linder Road as the preferred alignment.

**FEASIBILITY PLAN**

**PROJECT PLAN**

Option 7A: Swan Falls Road to Linder Road is the adopted crossing option as shown in Figure 13.

From a local perspective, the Swan Falls Road to Linder Road crossing provides a grade-separated crossing in downtown Kuna. Additionally, this option provides a crossing over the UPRR tracks and Indian Creek to connect the northern and southern areas of the City. The City of Kuna Comprehensive Plan (Reference 6) forecasts growth south of the railroad tracks, including industrial areas and a commercial area at King Road and Swan Falls Road. This new crossing provides connectivity and accessibility to this growth area of downtown and south Kuna. In addition, this option provides travelers a greater reliability for travel time, and improves the function of the current route for those users traveling west to east to access State Highway 69. Safety is expected to improve since the exposure to a potential conflict will be eliminated when the current at-grade crossing on Swan Falls Road is removed. An added benefit with this option is UPRR may contribute up to 5% to help fund the cost of constructing the bridge since the existing at-grade crossing will be removed.

**PLANNING-LEVEL COST ESTIMATE**

With a bridge span of approximately 600 feet, Option 7A: Swan Falls Road to Linder Road is estimated to cost between $15.5 million and $18.5 million. This planning-level cost estimate considers the cost of infrastructure, construction, and right-of-way. Option 7A: Swan Falls Road to Linder Road has the highest estimated cost of the most promising options.

**OTHER DESIGN CONSIDERATIONS**

Option 7A: Swan Falls Road to Linder Road includes a three-lane roadway section over Indian Creek at the UPRR tracks. A roundabout is identified at the Swan Falls Road/Linder Road/Avalon Street intersection, which has been planned to accommodate the projected traffic volumes. Cul-de-sacs will be required for two roads as a result of the new crossing affecting access: Shortline Street near Swan Falls Road and Morris Court at the current connection to Swan Falls Road. A new access, possibly to Avalon Street, will be necessary to provide access to the homes located on Morris Court. A new roadway is proposed to accommodate the traffic that will no longer have through-access on Shortline Street; the new roadway would extend from the intersection of Swan Falls Road and Stagecoach Way to the intersection of Avalon Street/Bridge Avenue/Shortline Street.

Using preliminary design calculations based on GIS data and GIS topographic information, it is anticipated that Swan Falls Road will have a grade of approximately 4.20 percent on the north and south sides of the bridge structure. A clearance of 23.5 feet is required between the bottom of the bridge structure and the railroad tracks. Using the grades mentioned previously, Option 7A is estimated to have a clearance of approximately 30 feet between the bridge structure and the railroad tracks. These design values are subject to change once more detailed survey and design is performed.

Option 7A includes approximately nine full property acquisitions. In addition, there is a structure consisting of steps once utilized for a train station located west of Swan Falls Road near the UPRR tracks. The structure may be impacted and might require relocation and/or adjustments with Option 7A in place.

Prior to any decision, this project will require detailed surveying, environmental review, permitting, and coordination with adjacent property owners and stakeholders.

**FUNDING AND IMPLEMENTATION STRATEGY**
This section describes the implementation strategy associated with incorporating the findings within local and regional plans and assessing options for a locally-funded or federally-funded project. Given the major infrastructure expense associated with this project (greater than $10 million), the implementation strategy identifies a framework and potential funding options that could be explored by the City of Kuna and ACHD. It is important to note that the reality of each current funding source being a viable or reliable source in the future is diminishing; there is simply not enough funding available to complete all identified projects. Secondly, these projects (needs) are competing for the same limited funds; and, as ACHD places priority on congestion and safety (crash data), it is not likely to be funded by ACHD. This is not to say that ACHD is forgoing all opportunities to contribute funds, but again those opportunities are limited relative to the other transportation needs in the County. Third, at a regional-level through COMPASS (regional metropolitan planning organization for Ada and Canyon Counties), this project is currently unfunded and ranked #20 out of 33 regional projects in the 2040 Communities in Motion (CIM). However, the project priority rankings provide the region with a starting point when or if federal or other funding were to become available for this type of project. For this project to be federally funded, the region through efforts led by the City of Kuna and ACHD would need to identify this project as a higher priority.

IMPLEMENTATION FRAMEWORK
Plan identifies a preferred location (Option 7A: Swan Falls Road to Linder Road) for the crossing. Once adopted, ACHD and the City of Kuna should incorporate the adopted location into the Master Street Map and Comprehensive Plan (respectively), as well as coordinate with COMPASS to incorporate this location in 2040 Communities in Motion (a long-range transportation plan for Ada and Canyon Counties that is currently being updated). Figure 16 illustrates the implementation strategy.

Figure 16. Implementation Strategy

By adopting the option into the Plan, agencies, developers, and the public can effectively plan for, and around, the alignment, making appropriate land use and transportation decisions to preserve land for the alignment and to diminish impacts to the future built environment when the crossing is constructed.

Selection of a preferred alignment now is necessary in order to define a project footprint and begin to preserve right-of-way as development occurs. However, funding for this major investment is not available at this time to move the project forward into design and construction. Therefore, some options and strategies are described below for local, regional, and federal partnerships and funding opportunities that should be considered as future steps by the City of Kuna, ACHD, and the community.

LOCAL PARTNERSHIPS AND FUNDING
ACHD Integrated Five-Year Work Plan (IFYWP)
The proposed crossing is to be constructed as opportunities develop and funding becomes available. However, as growth occurs, traffic operations may worsen and safety concerns may rise, changing timeframes to provide improvements to capacity, safety, and system efficiency. ACHD could consider incorporating the project into the Integrated Five-Year Work Plan (IFYWP, updated annually) should priority criteria be met and the project prioritize high among other county-wide projects. When the project is incorporated into the IFYWP, ACHD would initiate a design and construction project that is consistent with the concept-level design (shown in Figure 13) and specific capital and community program projects.

City of Kuna
The City of Kuna has identified this project as a priority. Given the limited funding, the City of Kuna can explore funding the project through its general fund, potentially over several years. The City may also consider applying for grants to fund the project.

**Public-Private Partnership**

Cooperative agreements can be established between agencies and private developers to share costs of certain roadway improvements. Private development land use actions and/or land use amendments will follow the development application and approval procedures of the City of Kuna and ACHD. The Plan provides guidance for identifying the necessary transportation facility provisions (e.g., right-of-way, improvements, traffic control devices, etc.) associated with specific land use action(s) and amendment(s).

**REGIONAL PARTNERSHIPS AND FEDERAL FUNDING**

Funding may also be available through regional partnerships and federal funding. The City of Kuna and ACHD could consider partnerships with the Community Planning Association of Southwest Idaho (COMPASS) and Idaho Transportation Department (ITD) to seek federal funding for this project. The adopted location should be coordinated with COMPASS to incorporate into Communities in Motion (the regional long-range transportation plan for Ada and Canyon County, updated every four years). The region utilizes a prioritization process to rank federally-funded projects and currently has this project ranked as #20. To receive federal funding, it is recommended that ACHD and the City of Kuna coordinate with the region through COMPASS to improve the priority ranking of this project against all other competing regional projects.

With a federally-funded project, the City of Kuna and/or ACHD would need to complete an environmental study under the National Environmental Policy Act (NEPA). Once the project priority is improved at the regional level with COMPASS and federal funding is secured, ACHD and the City of Kuna should coordinate with FHWA to determine the type of environmental study to embark on for evaluation, design, and construction.

**COORDINATION WITH UPRR**

UPRR has been a key stakeholder with this planning effort. It is recommended that ACHD and the City of Kuna continue to maintain this level of coordination with UPRR on future project efforts, as well as look for ways to partner with UPRR in funding this project. UPRR may be able contribute funds to the project due to changes or traffic volume reductions anticipated at the existing at-grade railroad crossings. Regardless of funding opportunities, coordination with UPRR will be required, particularly related to right-of-way and construction activities.

**CONCLUSION**

ACHD and the City of Kuna recognize that this Plan is not the end; the Plan plays one of the many roles in providing direction as the City continues to grow. Continual assessment of the need for a crossing over the UPRR and Indian Creek is necessary to ensure that the goals of the plan remain valid and the purpose for the crossing is achieved.

The first implementation steps of the Plan will need to be carried out with the City’s planning through the Kuna Comprehensive Plan, requiring an update to reflect the preferred alignment, and modifying future land use designations, particularly with changes to the roadway network.

ACHD will commit to assisting the City in planning efforts and in supporting opportunities to help make the crossing a reality. However, until traffic operations and safety data reflect the need for a crossing, ACHD’s regional mission and need to prioritize in that framework, limits the ability for ACHD to fund the project.

Going forward, the ability for implementing agencies to be adaptive to change is necessary so that the intended outcome of the strategy – a crossing of the Indian Creek and the UPRR - is realized. A strong coordinating and communication effort between all parties is necessary.

Through their respective Planning and Development divisions, ACHD and the City of Kuna will maintain an effective relationship and a consistent focus to achieve the intended outcomes of the Plan. Together, ACHD and the City of Kuna will:

- Be available to discuss projected outcomes relative to any suggested/proposed modifications to the adopted Plan;
- Will review proposed development in the alignment area for conformance with the adopted Plan;
- Maintain communications with residents, property owners, government, partner organizations, and developers participating in or affected by the alignment;
- Assist in coordinating activities to implement the Plan, including detailed land and transportation planning of
the area;

- Assist in informing and educating the public and partners and to advise decision-makers on options and the consequences of decisions relative to impacts and mitigation in the alignment area;
- Maintain a standard development review procedure specific to this Plan, including:
  - increased communication before and during development review;
  - consistency in conditions of approval for projects near the alignment;
  - property dedication through development review and approval.

Further, each agency will have separate efforts:

ACHD will:

- Continue to monitor traffic and safety data in the area, and implement traffic mitigation measures as deemed necessary; and,
- Support exploring alternative funding sources for the construction of the crossing facility; and,
- Maintain the Master Street Map to delineate the adopted alignment and update roadway details as development or planning changes occur.

Kuna will:

- Adopt the plan by reference in the City’s Comprehensive Plan
- Make appropriate amendments to city code to ensure consistent development of the alignment and intended outcomes.
- Be responsible for finding a funding mechanism for the alignment.

Finally, the responsibility for putting the Plan into effect rests with agencies, decision-makers, and property owners and developers in the area working together.

REFERENCES

1. Draft Idaho Statewide Rail Plan
   Idaho Transportation Department, April 10, 2013
   http://itd.idaho.gov/freight/railplan.html

2. UPR in Kuna Memorandum
   Ada County Highway District, June 11, 2013

3. Kuna Overpass Work Session Memorandum
   Ada County Highway District, May 16, 2012

4. Kuna Downtown Corridor Plan
   Ada County Highway District

5. Master Street Map
   Ada County Highway District, January 27, 2010
   http://www.achdidaho.org/departments/PP/TLIP.aspx

6. City of Kuna Comprehensive Plan
   City of Kuna, 2009