City of Ashland

Railroad Crossing Evaluation

Final Report

Prepared for:
City of Ashland
Public Works
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Ashland, OR 97520

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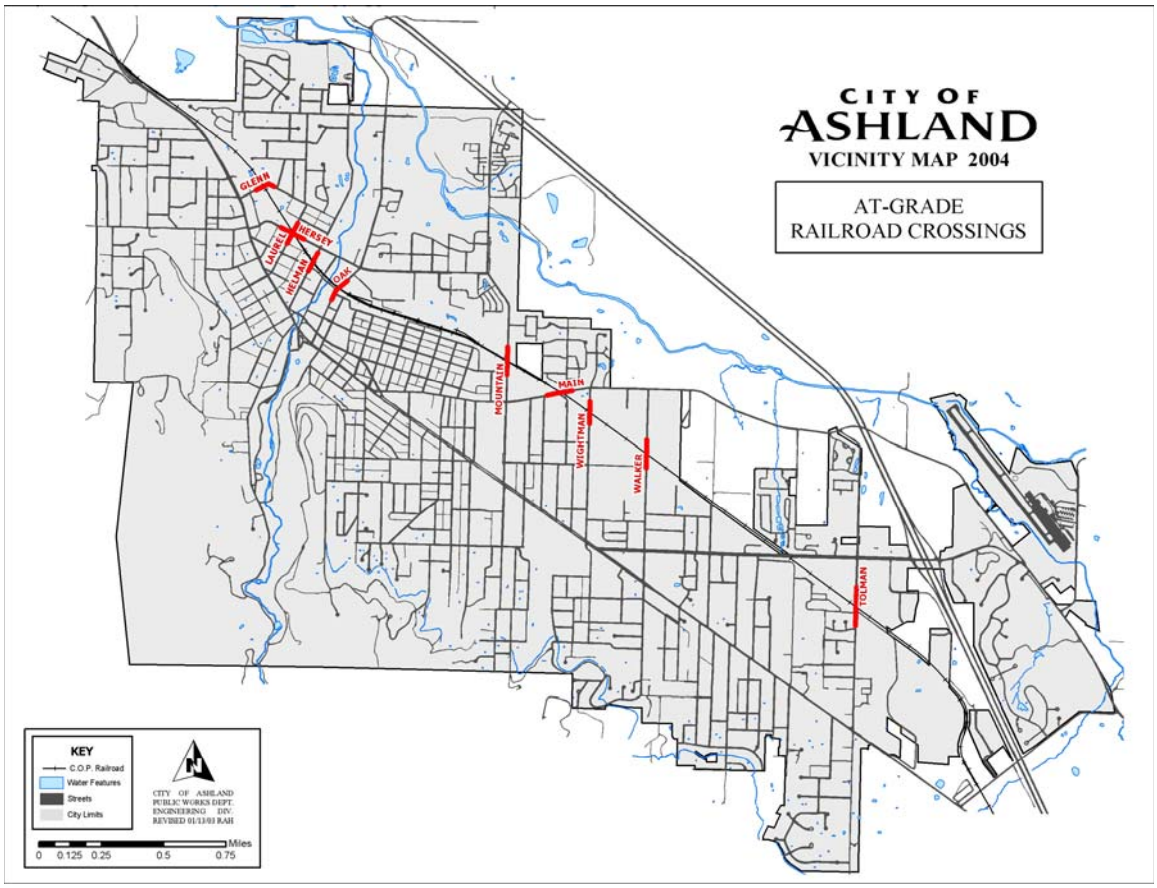
1.0 INTRODUCTION

This report documents the existing conditions for at-grade railroad crossings of streets within the City of Ashland, Oregon. There are nine grade crossings in Ashland, shown on Figure 1. All crossings are on a railroad corridor owned and operated by the Central Oregon and Pacific (CORP) Railroad.

The purpose of this report is to provide information to the City of Ashland on the conditions of the existing grade crossings, provide conceptual improvements that would bring the crossings to accepted standards for actively protected public at-grade crossings. The crossings are ranked for improvement based on roadway, railroad, and community considerations. This information will provide a basis for further planning of grade crossing improvements in the City of Ashland.

Figure 1 – City of Ashland At-Grade Railroad Crossings



2.0 EXISTING CONDITIONS SUMMARY

There are nine existing grade crossings in the City of Ashland (see Figure 1). These crossings, from north to south are:

- Glenn Street
- North Laurel Street/West Hershey St.
- Helman Street
- Oak Street
- North Mountain Avenue
- East Main Street
- Wightman Street
- Walker Avenue
- Tolman Creek Road

HDR, Inc. collected information on the existing conditions of these grade crossings through a field investigation and from the City of Ashland, Oregon Department of Transportation (ODOT) Rail Division, and the Central Oregon and Pacific Railroad (CORP), and the Federal Railroad Administration (FRA). Existing average daily traffic for each of the roadways with grade crossings was tabulated from historical traffic count data. Based on existing traffic and anticipated growth rates for the City of Ashland, future (2023) traffic volumes for the roadways with crossings were forecast by Kittelson & Associates.[1].

Existing roadway and railroad conditions at each crossing and the community services and facilities that use or are located near the crossings were factors used in ranking the crossing for improvement. The ranking is discussed in Section 4 below.

2.1 Roadway Conditions

Table 1 presents the existing roadway conditions for the Ashland grade crossings (grade crossings are listed from north to south).

Table 1. Ashland Grade Crossing Roadway Conditions

Crossing	Traffic		Pedestrian		Bicycle		Distance to Alternative Route			
	2003 ADT	2023 ADT	Sidewalk	Ped. Corridor	Bicycle Facilities	Parallel Bike Path to RR	Crossing to North (miles)	Crossing to South (miles)	Crossing to West (miles)	Crossing to East (miles)
Glenn Street	985	1300	Yes				0.8	0.21	0.06	0.06
N. Laurel Street	1630	2200	Yes	Yes			--	--	0.07	0.05
W. Hershey Street	2750	4900	Yes	Yes	BL		0.21	0.14	0.19	0.11
Helman Street	1665	2600	Yes	Yes			0.14	0.05	0.03	0.07
Oak Street	4415	7900	Yes	Yes	SL		0.1	0.7	0.01	0.09
N. Mountain Ave	5730	9900	Yes	Yes	SL, BL	Yes	0.7	0.28	0.05	0.15
E. Main Street	8015	13800	Yes	Yes	BL	Yes	0.28	0.13	0.01	0.03
Wightman Street	1015	1700	Yes	Yes		Yes	0.13	0.39	0.11	0.09
Walker Street	4820	7700	Yes	Yes	BL	Yes	0.39	0.6	0.06	0.25
Tolman Creek Rd	5645	10000	Yes	Yes	BL	Yes	0.4	1.2	0.01	0.02

Note: BL = bicycle lane; SL = shared lane

[1] Kittelson & Associates, Inc. Memorandum on Estimated 2023 Roadway Traffic Volume Forecast. From Chris Brehmer and Joe Bessman to Jennifer Ryan. June 4, 2003.

2.2 Railroad Conditions

Table 2 presents existing railroad conditions, including crossing protection.

Table 2. Ashland Grade Crossing Railroad Conditions

Crossing	Crossing Protection	Sidewalk Crossing Panels	RR Track Condition	Trains per Day	Number of Tracks	Max. Train Speed
Glenn Street	Stop Sign		Poor	2	1	20
N. Laurel Street			Poor	2	1	20
W. Hershey Street	Stop Sign		Poor	2	1	20
Helman Street	Gate & Flashers	North	Poor	2	2	20
Oak Street	Flashers		Poor	2	2	20
N. Mountain Ave	Flashers	North	Poor	2	2	20
E. Main Street	Gate & Flashers		Poor	2	1	20
Wightman Street	Stop Sign		Poor	2	1	20
Walker Street	Gate & Flashers		Poor	2	1	30
Tolman Creek Road	Gate & Flashers	North	Poor	2	1	30

In general, track condition of the grade crossings through Ashland is poor. Six of the nine crossings have a single track across the roadway, while the rest of crossings have two tracks. Most of the crossings have active protection devices such as flashers and/or gates. Three crossings have only stop signs. Daily train frequencies in the rail corridor through Ashland crossings are two trains per day, and maximum train speeds are 20 to 30 miles per hour.

CORP has not requested funds from ODOT Rail Division for rehabilitation of the track through Ashland, which CORP considers to be in comparatively good shape compared to the rest of their facilities. Due to relatively light traffic volumes CORP does not foresee rehabilitation projects on the Ashland corridor in the next ten years. [2]

ODOT Rail Division accident data indicates that there have been no recent accidents at the grade crossings in the City. FRA reported accidents at Glenn Street in 1992 and East Main Street in 1985; both occurred prior to CORP's acquisition of the rail line. CORP has expressed interest in upgrading the crossing surface from asphalt to concrete panels under their maintenance program if the City would provide funds for the work.

[2] Lovelady, Dan. Personal communication between Dan Lovelady, CORP General Manager and Jennifer Ryan, HDR. June 17, 2003.

2.3 Community Services and Facilities

Table 3 on the following page presents information on community services and facilities related to each of the grade crossings, such as whether the crossing is on a route to school, a life safety (emergency services) route, or existing or planned bus route.

Table 3. Community Services and Facilities

Crossing	On Route To/From				On Existing Bus Route	On Future Bus Route
	School	Public Facilities	Life Safety Route	Bus Stop on Hwy 9		
Glenn Street	-	-	-	-	-	-
N. Laurel Street	Yes	Yes	Yes	Yes	-	-
W. Hershey Street	Yes	Yes	Yes	Yes	-	Yes
Helman Street	Yes	Yes	-	-	-	Yes
Oak Street	Yes	Yes	Yes	Yes	-	-
N. Mountain Ave	Yes	Yes	Yes	-	-	Yes
E. Main Street	Yes	Yes	Yes	Yes	-	Yes
Wightman Street	Yes	-	-	-	-	-
Walker Street	Yes	Yes	Yes	Yes	-	Yes
Tolman Creek Road	Yes	Yes	Yes	Yes	Yes	Yes

Detailed information on the existing conditions of each of the grade crossings is presented on the following pages.

2.4 Existing Conditions Summaries for City of Ashland Grade Crossings

GLENN STREET
ODOT Crossing C-429.90, US DOT No. 756223F

Glenn Street is an existing public grade crossing across the mainline single track Central Oregon and Pacific Railroad (CORP). It is the northernmost grade crossing in the City of Ashland, with a Federal Highway Administration classification of Collector and City of Ashland Transportation System Plan (TSP) designation of Avenue.

Looking east across the tracks

The grade crossing has passive protection with a stop sign, crossbucks, advance warning sign and pavement markings, and no parking striping on the curbs on the approach quadrants. It is signed Glenn Street to the west of the tracks and Orange Street east of the tracks. The crossing surfacing material is asphalt over ties with gravel/ballast for the sidewalk on the south side of no separate bike lanes or striping.

Train speed is 20 mph on Class 2 track with poor sight distance for train operations headed south towards the crossing. Glenn St has the lowest average daily traffic (ADT) of all the crossings in Ashland with a current ADT of 985 and a forecast ADT in year 2023 of 1300.

Looking west across the tracks

Sight distance for vehicles approaching the crossing is poor to the north due to the curvature of the tracks. The crossing is located in a residential neighborhood with single-family detached housing on the east side of the tracks and multifamily apartment/condominiums to the west. It is two blocks east of Highway 99 (North Main Street).

LAUREL AND HERSHEY STREETS
ODOT Crossing C-429.69, US DOT No. 756221S

The Laurel and Hershey Street grade crossing is an existing public grade crossing across the single mainline track of the Central Oregon and Pacific Railroad (CORP). It is in the northern section of the City of Ashland, with West Hershey designated as an Arterial under the Federal Highway Administration classification and as an Avenue under the City of Ashland Transportation System Plan (TSP) designation. Laurel Street is classified as a Collector and designated as an Avenue.

Looking south along the tracks

The grade crossing has passive protection with stop signs, crossbucks, advance warning sign and pavement markings, and no parking striping on the curbs on the approach quadrants. Laurel and Hershey intersect at the grade crossing with the tracks heading south from the northeast corner of the intersection to the southwest corner. The crossing surfacing material is asphalt over ties with gravel/ballast for the sidewalks.

Southbound bike lane on Hershey

Train speed is 20 mph on Class 2 track with poor sight distance for train operations headed south towards the crossing due to vegetation along Laurel Street to the east. Immediately south of the grade crossing is a wayside signal for train operations for the siding track approaching the rail yard. Hershey Street has a 2003 ADT of 2750 and forecast 2023 ADT of 4900. Laurel Street has a 2003 ADT of 1630 and a forecast 2023 ADT of 2200.

Sight distance for vehicles approaching the crossing is poor to the north due to the vegetation around the tracks. The crossing is located in a residential neighborhood with single family detached housing in three quadrants and rail accessible industrial property in the southeast quadrant. It is four blocks east of Highway 99 (North Main Street).

HELMAN STREET
ODOT Crossing C-429.55, US DOT No. 756219R

The Helman Street grade crossing is an existing Public Grade Crossing across two tracks of the Central Oregon and Pacific Railroad (CORP). It is in the northern section of the City of Ashland, with Helman St designated as a Collector under the Federal Highway Administration classification and as an Avenue under the City of Ashland Transportation System Plan (TSP) designations.

Looking east and west across the tracks

The grade crossing has active crossing protection with flashing lights and gates, crossbucks, advance warning sign and pavement markings. The crossing surfacing material is asphalt over ties with gravel/ballast for the south sidewalk and concrete for the north sidewalk.

Train speed is 20 mph on Class 2 track with poor sight distance for train operations headed north towards the crossing due to track curvature. North of the grade crossing is a wayside signal for train operations, and the two tracks narrow to a single track just north of the industrial spur. Helman Street has a 2003 ADT of 1665 and forecast 2023 ADT of 2600.

Sight distance for vehicles approaching the crossing is poor to the north due to the buildings around the tracks. The crossing is located in between a residential neighborhood on the west and a commercial/industrial area to the east. It is four blocks east of Highway 99 (North Main Street).

North sidewalk crossing panels

Double track crossing

OAK STREET
ODOT Crossing C-429.30, US DOT No. 756217C

The Oak Street grade crossing is an existing public grade crossing across two tracks of the Central Oregon and Pacific Railroad (CORP). It is in the northern section of the Railroad District in the City of Ashland, and is designated as an Arterial under the Federal Highway Administration classification and as an Avenue under the City of Ashland Transportation System Plan (TSP) designations.

Looking west and east across the tracks

The grade crossing has active crossing protection in the east approach quadrant with wigwags and a stop sign, crossbucks, advance warning sign and pavement markings. There is no active protection in the west approach quadrant. The crossing surfacing material is asphalt over ties with gravel/ballast for the sidewalks.

Train speed is 20 mph on Class 2 track with poor sight distance for train operations headed north towards the crossing due to track curvature. South of the grade crossing is the rail yard and sidings. Oak Street has a 2003 ADT of 4415 and forecast 2023 ADT of 7900.

Sight distance for vehicles approaching the crossing is poor due to the buildings around the tracks and the intersection of Van Ness which is less than 50’ from the west side of the crossing. The crossing is located in between a mixed-use commercial/residential neighborhood on the west and a commercial/industrial area to the east. It is four blocks east of Highway 99 (North Main Street).

Pedestrians using the roadway due to lack of adequate sidewalk facilities

Truck movements from Industrial driveway next to crossing to Van Ness

NORTH MOUNTAIN AVENUE
ODOT Crossing C-428.70, US DOT No. 756418T

The Mountain Avenue grade crossing is an existing public grade crossing across two tracks of the Central Oregon and Pacific Railroad (CORP). It is in the southern section of the Railroad District in the City of Ashland, with North Mountain Avenue designated as an Arterial under the Federal Highway Administration classification and as an Avenue under the City of Ashland Transportation System Plan (TSP) designations.

Looking west and east across the tracks

The grade crossing has active crossing protection gates and flashing lights, crossbucks, advance warning sign and pavement markings. The crossing surfacing material is asphalt over ties with concrete panels for the sidewalks.

Train speed is 20 mph on Class 2 track. North of the grade crossing is the rail yard and sidings. Mountain Avenue has a 2003 ADT of 5730 and forecast 2023 ADT of 9900, which would give it the third highest ADT of the Ashland grade crossings

Sight distance for vehicles approaching the crossing is poor due to the buildings around the tracks and the steep approach from the east. The crossing is located in between a mixed-use commercial/residential neighborhood on the west and a residential area to the east. It is three blocks northeast of the traffic signal at East Main Street.

Sidewalk panels being installed on south side of crossing

Bike path parallel to railroad tracks

EAST MAIN STREET
ODOT Crossing C-428.42, US DOT No. 756416E

The East Main Street grade crossing is an existing public grade crossing across a single track of the Central Oregon and Pacific Railroad (CORP). It is just south of downtown Ashland. East Main Street is designated as an Arterial under the Federal Highway Administration classification and as an Boulevard under the City of Ashland Transportation System Plan (TSP) designations.

Looking west and east across the tracks

The grade crossing has active crossing protection gates and flashing lights, crossbucks, advance warning sign and pavement markings. The crossing surfacing material is asphalt over ties with gravel/ballast for the sidewalks.

Train speed is 20 mph on Class 2 track. North of the grade crossing a second siding joins the mainline track to the east. Main Street has a 2003 ADT of 8015 and forecast 2023 ADT of 13800, which is the highest ADT of the Ashland grade crossings.

Sight distance for vehicles approaching the crossing is poor due to the buildings and vegetation around the tracks. California Street intersects with Main Street immediately next to the crossing in the SW quadrant. The crossing is located in between a mixed-use public facilities/residential on the west and a residential area to the east. It is three blocks northeast of the traffic signal at East Main Street and Mountain Ave.

Park in one quadrant with heavy pedestrian traffic along bike path

Bike path along California St

WIGHTMAN STREET
ODOT Crossing C-428.29; 756417L

The Wightman Street grade crossing is an existing Public Grade Crossing across one track of the Central Oregon and Pacific Railroad (CORP). It is in the north central section of the City of Ashland. Wightman Street is designated as a Collector under the Federal Highway Administration classification and as an Avenue under the City of Ashland Transportation System Plan (TSP) designations.

The grade crossing has passive crossing protection with a stop sign. The crossing surfacing material is asphalt over ties with gravel/ballast.

Train speed is 20 mph on Class 2 track with poor sight distance for train operations headed north towards the crossing due to track curvature. Wightman Street has a 2003 ADT of 1015 and forecast 2023 ADT of 1700.

Sight distance for vehicles approaching the crossing is poor to the north due to the close proximity of buildings and fencing around the tracks. The crossing is located in between two residential neighborhoods on the east and west. It is four blocks east of Highway 99 (North Main Street).

WALKER AVENUE
ODOT Crossing C-427.90, US DOT No. 756415X

The Walker Avenue grade crossing is an existing public grade crossing across a single track of the Central Oregon and Pacific Railroad (CORP). It is located south of downtown Ashland. East Main Street is designated as a Collector under the Federal Highway Administration classification and as an Avenue under the City of Ashland Transportation System Plan (TSP) designations.

Looking west and east across the tracks

The grade crossing has active crossing protection gates and flashing lights, crossbucks, advance warning sign and pavement markings and no parking striping on the approach curbs. The crossing surfacing material is asphalt over ties with gravel/ballast for the sidewalks.

Train speed is 30 mph on Class 2 track. North of the grade crossing a second siding joins the mainline track to the east. Walker Avenue has a 2003 ADT of 4820 and forecast 2023 ADT of 7700, which is the fourth highest ADT of the Ashland grade crossings.

Sight distance for vehicles approaching the crossing is fair from the east and poor from the west due to the buildings and vegetation around the tracks. Walker Elementary School is to the west of the crossing and Ashland Middle School is to the east, resulting in a highest ranking for Walker Avenue as a “route to school”. Southern Oregon State University’s ball fields are in the southwest quadrant. The crossing is located in between a school area on the west and a residential area to the east. It is three blocks south of the traffic signal at East Main Street and four blocks north of the signal at Ashland Street.

TOLMAN CREEK ROAD
ODOT Crossing C-426.90; 756412C

The Tolman Creek Road grade crossing is an existing public grade crossing across one track of the Central Oregon and Pacific Railroad (CORP). It is in the northeast section of the City of Ashland. Tolman Creek Road is designated as a Collector under the Federal Highway Administration classification and as an Avenue under the City of Ashland Transportation System Plan (TSP) designations.

The grade crossing has active crossing protection with flashing lights and gates, crossbucks, advance warning sign and pavement markings. The crossing surfacing material is asphalt over ties with gravel/ballast for the south sidewalk and concrete for the north sidewalk.

Train speed is 30 mph on Class 2 track with poor sight distance for train operations headed north towards the crossing due to track curvature. Tolman Creek Road has a 2003 ADT of 5645 and forecast 2023 ADT of 10000.

Sight distance for vehicles approaching the crossing is poor to the south due to the vegetation and track curvature. The crossing is located in between a residential neighborhood on the west and a commercial/industrial area to the east. It is four blocks east of Highway 99 (North Main Street).

Looking west and east across the

3.0 GRADE CROSSING IMPROVEMENT OPTIONS

Options for improvement for each of the City of Ashland grade crossings is presented below. For each crossing, conceptual improvements that would bring each crossing into compliance with American Association of State Highway and Transportation Officials (AASHTO) and American Railroad Engineering and Maintenance of Way Association (AREMA) standards for actively protected grade crossings are documented. The potential for closure of each crossing is discussed as well.

3.1 Grade Crossing Improvement Option Summaries

Glenn Street Crossing Improvement Options

Upgrade Crossing. Upgrade crossing to Avenue standards per TSP with separate 6' bike lanes and 5' sidewalks with planting strip across railroad tracks. In order to meet AASHTO vertical curvature standards, the street will most likely need to be re-graded for several hundred feet on either side of the grade crossing with adjustments to the residential driveways. A full upgrade would include installation of concrete crossing panel surfacing for both the sidewalks and roadway, and active railroad signal protection with flashing lights and gates inter-tied with the adjacent grade crossing at Laurel and Hershey.

Close Crossing. Close Glenn Street crossing with hammerhead on east side that incorporates a portion of private access road/driveway in the NE quadrant and hammerhead or cul-de-sac on the west side. Provide for Bike Path extension from Laurel and Hershey on the east side of the tracks to maintain connectivity on the east side with Lori Lane performing that function on the west side.

Laurel and Hershey Street Improvement Options

Upgrade Crossing. Upgrade all approaches to the crossing to Avenue standards per TSP with separate 6' bike lanes and 5' sidewalks with planting strip across railroad tracks. In order to meet AASHTO vertical curvature standards, the Laurel Street approaches will most likely need to be regraded for several hundred feet on either side of the grade crossing with adjustments to the residential driveways. A full upgrade would include installation of concrete crossing panel surfacing for both the sidewalks and roadway, and active railroad signal protection with flashing lights and gates intertied with the adjacent grade crossings at Glenn and Helman streets.

Close Crossing. With Hershey being a transit route and the designated route to school access on Laurel and Hershey streets, this is not a good candidate for closure of the crossing

Helman Street Improvement Options

Upgrade Crossing. Upgrade both approaches to the crossing to Avenue standards per TSP with separate 6' bike lanes and 5' sidewalks with planting strip across railroad tracks. In order to meet AASHTO vertical curvature standards, Helman will likely need to be regraded for several hundred feet on either side of the grade crossing with adjustments to the industrial driveways. A full upgrade would include installation of concrete crossing panel surfacing for roadway and the south sidewalk, and intertie of the existing railroad signals with the adjacent grade crossings at Laurel, Hershey and Oak streets.

Close Crossing. With the rail accessible industrial property, the designated route to school access to Helman Elementary School, and the Creek to Crest Bike route on Helman Street it is not a good candidate for closure of the crossing.

Oak Street Improvement Options

Upgrade Crossing. Upgrade both approaches to the crossing to Avenue standards per TSP with separate 6' bike lanes and 5' sidewalks with planting strip across railroad tracks. In order to meet AASHTO vertical curvature standards, Oak Street and Van Ness may need to be regraded for several hundred feet on either side of the grade crossing. A full upgrade would include installation of concrete crossing panel surfacing for roadway and sidewalks, and upgrading the crossing protection signal equipment and intertie with the adjacent grade crossing at Helman Street.

Close Crossing. With the rail accessible industrial property to the south, the high ADT and the connectivity issues with Oak St being the northern end of the Railroad District, it is not a good candidate for closure of the crossing.

Mountain Avenue Improvement Options

Upgrade Crossing. Upgrade both approaches to the crossing to Avenue standards per TSP with separate 6' bike lanes and 5' sidewalks with planting strip across railroad tracks. In order to meet AASHTO vertical curvature standards, Mountain Avenue may need to be regraded for several hundred feet on either side of the grade crossing, particularly to the east. A full upgrade would include installation of concrete crossing panel surfacing for roadway and the north sidewalks, and upgrading the existing signal equipment to inter-tie with the adjacent grade crossing at Main Street.

Close Crossing. With the emergency response facilities to the to the southwest (police station and public works department), the high ADT and the connectivity issues with Mountain Avenue being the southern end of the Railroad District, it is not a good candidate for closure of the crossing.

East Main Street Improvement Options

Upgrade Crossing. Upgrade both approaches to the crossing to Boulevard standards per TSP with 5' sidewalks with planting strip and separate 6' bike lanes across railroad tracks. In order to meet AASHTO vertical curvature standards, Mountain Avenue may need to be regraded for several hundred feet on either side of the grade crossing, particularly to the east. A full upgrade would include installation of concrete crossing panel surfacing for roadway and sidewalks, and upgrading the existing signal equipment to intertie with the adjacent grade crossings at North Mountain Avenue and Walker Avenue.

Sidewalks and bike lanes merge onto roadway at crossing

Close Crossing. With the emergency response facilities to the to the west (fire and police stations and public works department), the high ADT and the route to school for several facilities, East Main Street is not a good candidate for closure of the crossing.

Bike path looking northwest

Wightman Street Improvement Options

Upgrade Crossing. Upgrade the crossing from a passive to active signal protection system. Then upgrade both approaches to the crossing to Avenue standards per TSP with separate 6' bike lanes and 5' sidewalks with planting strip across railroad tracks. In order to meet AASHTO vertical curvature standards, Wightman will likely need to be regraded for several hundred feet on either side of the grade crossing with adjustments to the residential driveways. A full upgrade would include installation of concrete crossing panel surfacing for roadway and the sidewalks, and intertie of the existing railroad signals with the adjacent grade crossings at Main and Walker.

Close Crossing. The low ADT, not being a school route and lack of active protection at the crossing make this crossing a good candidate for closure. Typically, pedestrian access would not be maintained if the crossing were closed.

Walker Street Improvement Options

Upgrade Crossing. Upgrade both approaches to the crossing to Avenue standards per TSP with 5' sidewalks with planting strip and separate 6' bike lanes across railroad tracks. In order to meet AASHTO vertical curvature standards, Walker Avenue may need to be regraded for several hundred feet on either side of the grade crossing, particularly to the east. A full upgrade would include installation of concrete crossing panel surfacing for roadway and sidewalks, and upgrading the existing signal equipment to intertie with the adjacent grade crossings at East Main Street and Tolman Creek Road.

Close Crossing. With the significant amount of pedestrian and bicycle traffic as a "route to school" and the high ADT, Walker Avenue is not a good candidate for closure of the crossing.

Tolman Creek Road Improvement Options

Upgrade Crossing. Sidewalk upgrades of the new curb and new sidewalk and the north should remain. Upgrade both approaches to the crossing to Avenue standards per TSP with separate 6' bike lanes and 5' sidewalks with planting strip across railroad tracks on south side. A full upgrade would include installation of concrete crossing panel surfacing for roadway and the south sidewalk.

Close Crossing. The high ADT, the designated school route, and life safety route, it is not a good candidate for closure of the crossing.

4.0 GRADE CROSSING RANKING

The existing conditions were evaluated in order to rank the crossings for priority of improvement planning and eventual implementation. Key factors in this evaluation were:

- What is the current and future average daily traffic (ADT)?
- Is the crossing located on a route to a school?
- Is the crossing on a life safety route typically used by emergency services?
- Is the crossing on an existing or potential future transit route?
- Is the crossing located near a pedestrian generator, such as a civic/municipal facility or use, school, park, or community-scale retail location?

Those crossings with relatively high current and future ADT and were also on routes to school, life safety routes, transit routes, and near pedestrian generators received the highest rankings.

Table 4 presents the crossings ranked by priority for planning improvements.

Table 4. Ashland Grade Crossing Ranking

Rank	Crossing	2003 ADT	2023 ADT	Route to school	Life Safety Route	Existing or Future Transit Route	Pedestrian Generator
1	East Main Street	8015	13800	Yes	Yes	Yes	Civic/Park/School
2	Tolman Creek Road	5645	10000	Yes	Yes	Yes	School/Retail/Park
3	North Mountain Ave	5730	9900	Yes	Yes	Yes	Civic/Park
4	Oak Street	4415	7900	Yes	Yes	-	Retail
5	Walker Avenue	4820	7700	Yes	Yes	Yes	Civic/School
6	West Hershey Street	2750	4900	Yes	Yes	Yes	Park
6	North Laurel Street	1665	2600	Yes	-	Yes	Greenway
7	Helman Street	1630	2200	Yes	Yes	-	School
8	Wightman Street	1015	1700	Yes	-	-	
9	Glenn Street	985	1300	-	-	-	

Table 5 presents preliminary, planning-level cost estimates for bringing each crossings in Ashland into compliance with AASHTO and AREMA standards for actively protected grade crossings. Recommendations for phasing improvements will be presented in a separate memorandum.

Table 5. Conceptual Costs for Grade Crossing Improvements

Rank	Crossing	Costs ($)							
		RR Signals	Railroad Reconst.	** RR Design	*RR Costs TOTAL*	Reconst. Roadway Approaches	* Roadway Design	*Roadway Cost Total*	Crossing Improvement TOTAL
1	East Main Street	195,000	107,000	60,000	*362,000*	230,000	100,000	*330,000*	$692,000
2	Tolman Creek Road	195,000	107,000	60,000	*362,000*	230,000	100,000	*330,000*	$692,000
3	North Mountain Ave	195,000	196,000	80,000	*471,000*	230,000	100,000	*330,000*	$801,000
4	Oak Street	195,000	196,000	80,000	*471,000*	230,000	100,000	*330,000*	$801,000
5	Walker Avenue	195,000	107,000	60,000	*362,000*	230,000	100,000	*330,000*	$692,000
6	West Hershey Street and North Laurel Street	225,000	196,000	80,000	*501,000*	250,000	100,000	*350,000*	$851,000
7	Helman Street	195,000	196,000	60,000	*451,000*	230,000	100,000	*330,000*	$781,000
8	Wightman Street	195,000	107,000	60,000	*362,000*	230,000	100,000	*330,000*	$692,000
9	Glenn Street	195,000	107,000	60,000	*362,000*	230,000	100,000	*330,000*	$692,000

* Includes survey of roadway approaches, preparation of ODOT crossing application, coordination with ODOT Rail and Railroad.

** Includes survey of railroad tracks, and railroad signal design.

The template for construction costs for the roadway approaches is from the ODOT standard bid item cost estimating pages, and for railroad crossings is from previous construction bid tabs. An example breakdown for a typical roadway and railroad cost estimate is included in Appendix 1.

5.0 REFERENCES

- Kittelson & Associates, Inc. *Memorandum on Estimated 2023 Roadway Traffic Volume Forecast*. From Chris Brehmer and Joe Bessman to Jennifer Ryan. June 4, 2003.

- Lovelady, Dan. Personal communication between Dan Lovelady, CORP General Manager and Jennifer Ryan, HDR. June 17, 2003.

APPENDIX 1