



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 P 541.312.8300 F 541.312.4585

TECHNICAL MEMORANDUM

Warm Springs Commercial Corridor Safety Plan

DRAFT Project Overview and Methodology Memorandum

Date: November 16, 2016 Project #: 19780
To: Michael Duncan, ODOT
From: Ashleigh Griffin, AICP, and Brian Ray, PE
cc: Lonny Macy, Confederated Tribes of Warm Springs

This memorandum provides an overview of the Warm Springs Commercial Corridor Safety Plan. It describes the methodology that will be used to evaluate the study area and develop recommendations as part of the Plan.

PROJECT PURPOSE

The Warm Springs Commercial Corridor Safety Plan is intended to develop a set of goals, objectives, and strategies that improve safety on and around the Warm Springs Commercial Corridor. The Plan is intended to build upon goals, objectives, and strategies in the 2014 Warm Springs Transportation Plan. The Plan will identify, prioritize, and refine safe and efficient infrastructure for all modes of transportation.

The Plan focuses on an approximately three mile section of US 26 from the intersection at Paiute Avenue (BIA 3) to the southeastern boundary of the reservation at the Deschutes Crossing (milepost 105.20) and nearby streets, as illustrated in Figure 1.



Figure 1. Study Area

PROJECT GOALS

Project goals were identified with input from the Project Management Team (PMT) and Project Advisory Committee (PAC). These goals will be used to guide the development of the plan and prioritize projects, policies, and programs.

The goals identified for this Plan include:

- Provide a transportation system that promotes the safety performance of current and future travel modes for each user.
- Promote a transportation system that facilitates the use of state highways for safe and efficient travel while providing safe multimodal corridors and connections to key destinations in the community.
- Reduce the frequency and severity of crashes for each user.
- Identify roads with geometric conditions that could potentially be modified to reduce the risk of future crashes.
- Identify educational and enforcement strategies to address crash trends and risks.

BACKGROUND DOCUMENTS

The Confederated Tribes of Warm Springs (CTWS) has completed a number of recent planning efforts that are relevant to the study area. This Plan will build upon these efforts. In order to ensure consistency with previous plans, a review of the following documents was completed:

1. Traffic Monitoring Analysis for Indian Head Casino (2016)
2. Highway 26 Warm Springs Transportation Plan (1997)
3. The People's Plan – Comprehensive Plan for Year 2020 (1999)
4. Oregon Downtown Development Association – Resource Team Report for Warm Springs, Oregon (2002)
5. Warm Springs Local Street Network & Campus Area Plan (June 2005)
6. Warm Springs Downtown Development Plan (2005)
7. Integrated Resources Management Plan (2012)
8. Warm Springs Town Center – Property Summary (2012)
9. Warm Springs Reservation Transportation Plan (2014)

The following sections provide a brief summary of the relevant items from the plans above.

The People's Plan

The People's Plan was adopted in 1999 as the Confederated Tribes of Warm Springs' Comprehensive Plan. It served as an update to the 1983 Plan. The Plan represents the CTWS's vision for its future and

provides benchmarks for achieving its goals. The Plan identifies the Tribal Council priorities, which include Public Safety and Community Development and Housing, among other items.

The Public Safety Section and the Land Use, Transportation, and Community chapters both reference the increase in traffic volumes experienced on US 26 and on the local roads. The Land Use, Transportation, and Community chapter also references an increasing demand for road maintenance.

The Other Priorities section of The People's Plan includes an overview of the Highway 26 recommended improvements in the 1996 Highway 26 Corridor Plan. Several of these are located within the Commercial Corridor Safety Plan study area. These include:

- Tenino Road/Highway 26 Westbound left-turn lane (*completed*)
- Traffic signal at Kah-Nee-Ta/Paiute/Highway 26 intersection
- Increase personnel and equipment at Bear Springs maintenance office
- "Open Range" signs along corridor
- Weather stations/message signs in ice prone areas
- Beaver Creek feasibility study (realign Highway 26)

Oregon Downtown Development Association – Resource Team Report for Warm Springs, Oregon (2002)

The Oregon Downtown Development Association – Resource Team Report for Warm Springs was completed in 2002 with the intent to "bring the community together to discuss a shared vision of the downtown's future, then articulate those ideas into conceptual drawings and supporting text."

Several recommendations from the report include transportation elements. The Plan recommends a "figure-8 loop" of connected sidewalks, streetscape improvements, and crosswalks around the greenspaces. It also identifies gateways, circulations and linkages, streetscape improvements, overlooks, and gathering areas as general opportunities for the downtown area. In particular, it recommends the approach to downtown on Paiute Avenue from US 26 as a potential location for gateway treatments consisting of attractive signage on both sides of Paiute Street, pedestrian-scale lighting, and wide sidewalks.

Warm Springs Local Street Network and Campus Area Plan (June 2005)

This Plan was intended to provide the CTWS with guidance for the development of the local street and trail system around the Campus Area (downtown). It was the transportation component of the Warm Springs Downtown Development Plan (2005). It provides guidance on the development of the downtown street system, sidewalks, shared-use paths, and other traffic issues.

The Plan recommended the following potential projects:

- US 26 Intersection Improvements (Priority: Within 10 years)

- Hollywood Boulevard/Tenino Road Roundabout (Low Priority)
- Extend Warm Springs Street to West (Low Priority)
- Reconstruct Wasco Street (Highway Priority)
- Add/Upgrade Sidewalks on Warm Springs Street and Wasco Street east of Paiute Avenue (High Priority)
- Upgrade ADA Compliance at existing corners (Low Priority)
- Improve separated pathways (Low-Moderate Priority)

Integrated Resources Management (2012)

The Integrated Resources Management Plan for the Forested Area and Rangelands (IRMP) “provides guidelines for the stewardship of all forest and rangeland resources, and serves as a basis for making management decisions on the Warm Springs Reservation.” The IRMP goals are intended to encourage resource management planning that will:

1. “Preserve, protect and enhance environmental and cultural values.
2. Sustain traditional, subsistence and other cultural needs of current and future tribal members.
3. Provide for sustainable economic and employment opportunities.
4. Provide for public health and safety.
5. Manage for diversity, long-term productivity and sustainability of all natural resources.”

Several of the Plan’s goals are related to transportation. These include the following goals and objectives:

1. “Goals:
 - a. 1) Develop a transportation system that accommodates the growing population while providing for the safety and influx of people coming onto and passing through the reservation.
 - b. 2) Develop a plan to create a safe and efficient network of roads and paths that meet current needs and projected demand.
 - c. 3) Develop and maintain a system that will provide economical transportation for residents, and for commercial and resource management activities.
 - d. 4) Develop and maintain a reservation-wide transportation system that will minimize adverse impacts on natural resources.
 - e. 5) Minimize the impact of vehicular traffic on residential streets through design.
 - f. 6) Encourage community involvement in all phases of neighborhood traffic management.
2. Objectives:
 - a. 1) Develop and implement a comprehensive transportation plan that is designed to meet tribal member needs for at least 20 years while protected or mitigating impacts to other resources.
 - b. 2) Continue to reduce the miles of roads within the forested and non-forested area.

- c. 3) Reduce negative impacts associated with the transportation system on resources.
- d. 4) Provide the public with updated information concerning access and changes to the reservation's road system."

Warm Springs Town Center – Property Summary (2012)

This Plan provides a "conceptual level plan" for the Campus Area, preparing it for redevelopment based on studies and Plans done prior to 2012. The Plan acknowledges the desire to attract visitors and business from traffic on US 26. These visitors would access the Campus Area from the intersection of US 26/Paiute Avenue. The Plan indicates that traffic volumes on US 26 peak on Fridays and Sundays.

The Plan indicates that the streets surrounding the Campus Area (Paiute Avenue and Warm Springs Street) are generally in good condition. However, it indicates that Wasco Street has poor roadway conditions and needs to be reconstructed. Because Wasco Street forms the internal circulation within the Campus, it recommends the road be redesigned to accommodate all modes when it is rebuilt.

Warm Springs Reservation Transportation Plan (2014)

The Warm Springs Reservation Transportation Plan was completed in 2014. The Plan focuses on the entire Warm Springs Reservation (690,000 acres), identifying unmet needs and projects to address those needs. The Plan's primary objectives include:

- "To establish a continuous transportation planning process for transportation systems on the reservation;
- To develop a surface transportation plan that is consistent with other modes of transportation and the plans of other transportation agencies;
- To identify and address the transportation needs that support the Tribes' socioeconomic objectives;
- To include in the Plan access to new land parcels acquired by the Tribes; and
- To periodically monitor the TTP Road Inventory for the Warm Springs Reservation to ensure that the CTWS receives its fair share of Highway Trust Funds through the current BIA funding allocation formula."

The 2014 Transportation Plan provided several recommended projects that are located within the Commercial Corridor study area. These are summarized in Table 1 below.

Table 1. Relevant Projects from the 2014 Transportation Plan

Project Number	Project	Total Estimated Cost	Priority
11	Jackson Trail Road Chip Seal	\$904,000	Short-Term
26	New Housing Streets off of Chukar Street	\$711,000	Mid-Term
2	New School Access	\$427,000	Short-Term (Completed)
8	Trail: Campus Area to Museum	\$388,000	Short-Term
9	Trail: School to Community Center	\$496,000	Short-Term
6	Trail: West Tenino Road	\$460,000	Short-Term

Traffic Monitoring for the Indian Head Casino (2016)

The Indian Head Casino, located on US 26 in Warm Springs, completed a traffic monitoring analysis in February 2016. The traffic monitoring analysis was required as part of the condition for approval of the casino in 2011. During the completion of the traffic monitoring analysis, the following traffic data was collected:

- Manual turning movement traffic counts at US 26/Wasley Lane (Casino driveway) from August 6, 2015 (Thursday) at noon to August 9, 2015 (Sunday) at midnight. The weekday p.m. peak hour was found to occur at 12:00 pm on Thursday, 2:00 pm on Friday, and 1:00 pm on Sunday. The study found that the traffic volumes to/from the casino are roughly split among those traveling east and west along US 26.
- As part of the traffic counts at US 26/Wasley Lane, pedestrian counts were collected at the intersection. The highest number of recorded pedestrians crossing per day occurred on Thursday, when seven pedestrians crossed US 26. However, the total pedestrian volume (for all approaches) peaked on Saturday, when 18 pedestrians were counted.

The findings from the Casino traffic monitoring study found that the traffic volumes at the Casino driveway met signal warrants on Sundays during the peak season of traffic (summer). However, the weekday volumes did not warrant a signal. Based on this, a signal was not recommended by the study. In addition, the study found that an enhanced pedestrian crossing (e.g., a Rectangular Rapid Flashing Beacon) is not warranted based on less than 14 peak-hour pedestrian crossings of US 26.

PROJECT METHODOLOGY

The Commercial Corridor Safety Plan will be completed through a data-informed and public-driven process. Technical analysis will be completed to inform the PAC at a series of stakeholder meetings throughout the project. The technical analysis will provide an overview of traffic patterns, reported crash history, and geometric conditions that may affect crash risk.

The Plan will be developed through the following general steps:

- Traffic volumes will be obtained from the 2014 Transportation Plan and 2016 Casino Traffic Monitoring Study for the priority intersections and study segments, as available. These priority intersections and road segments include:
 - US 26 / Paiute Avenue (BIA 3)
 - US 26 / Hollywood Boulevard
 - US 26 / Indian Head Casino (Museum at Warm Springs) Driveway
 - US 26 / Tenino Road
 - US 26 throughout the study area
 - Hollywood Boulevard throughout the study area
 - Tenino Road between US 26 and the Tribal Administration Building
 - Quail Trail Road between Chukar Road and Tenino Road
 - Chukar Road between Tenino Road and Quail Trail Road
 - Paiute Avenue between Warm Springs Street and US 26
 - Warm Springs Street between Paiute Avenue and Hollywood Boulevard
- Planned projects will be summarized from the 2014 Transportation Plan.
- Reported crashes will be obtained from ODOT's crash database for the most current complete five year period. These crashes will be supplemented with any additional data provided by the Confederated Tribes of Warm Springs (CTWS).
- A crash analysis will be completed to identify trends in severity, crash types, or other crash characteristics that may identify potential safety issues in the study area.
- The Highway Safety Manual (HSM) Part C predictive methods will be applied to the priority roads and intersections within the study area to estimate expected crash frequency based on traffic and roadway characteristics.
- Based on the crash analysis, HSM analysis, and public input, a list of potential safety issues for the study area will be identified.
- Potential countermeasures will be determined and evaluated based on their documented effectiveness and relative cost.
- Projects will be prioritized based on their ability to meet the Plan's goals and relative ease of implementation. The final recommendations will be compiled into the Draft Commercial Corridor Safety Plan.

PUBLIC INVOLVEMENT

Public Advisory Committee (PAC)

The Plan will be developed through a public involvement process guided by technical data. A Public Advisory Committee (PAC) will guide the project through a series of meetings. The PAC is comprised of stakeholders representing a wide range of parties with interest in the study area, including public works members, public safety representations, residents, and business owners. The first meeting will

focus on the project goals and methodology and identifying issues. The second meeting will be focused on an overview of the data analysis and identified issues. The final meeting will be focused on gathering input on the draft prioritized plan elements.

Public Meetings

A Safety Charrette will be held following the second PAC meeting. The Safety Charrette is intended to provide an opportunity for the general public to learn about the project and share their thoughts on projects. The Safety Charrette will be conducted in an interactive format, intended to allow participants to share thoughts about where specific treatments are needed.

PROJECT SCHEDULE

The project began in June 2016 and is expected to conclude in December 2016, as shown in Figure 2. Key meetings during the project are planned during August, September, and October, during the key development stage of the draft strategies. After the Draft Plan is developed, the Plan will be presented to Tribal Council for adoption.



Figure 2. Project Schedule

PROJECT WEBSITE

Throughout the development of the Plan, meeting information and documents will be posted to the project website for review by the PAC and public.

www.ctwssafetyplan.com