



Date:	March 30, 2022
To:	Will VanVactor, Crook County
From:	Joe Bessman, PE
Project Reference No.:	1694
Project Name:	Crossing Trails Resort TIA Review







This memorandum was prepared on behalf of Crook County to assess the completeness of the transportation materials submitted to date with County criteria. This is the second iteration of comments provided to the team; the original comments presented did not include review of the Transportation Impact Analysis that was subsequently submitted by the applicant that included revisions to materials within the scoping process.

This response includes a review of the following documents:

- March 1, 2022 comment responses
- Crossing Trails Transportation Impact Analysis dated January 2022
- Supplemental Draft

In summary, I do not believe that the application should be deemed complete for the following reasons:

- The applicant has assessed a 2026 horizon that does not comply with the requirements of Oregon Administrative Rule 660-012-0060 or the Oregon Highway Plan Action 1F.2. Not only does this horizon not meet these State planning requirements, it does not realistically reflect a build-out horizon year for Crossing Trails Resort as required by County Code or meet the 2028 analysis horizon of the original Crossing Trails report. Both the original Crossing Trails report and the traffic study submitted by the applicant acknowledge the relevance of the Transportation Planning Rule to the proposed application, but the report does not address the relevant criteria that pertains to this application. 
- The applicant's materials show the addition of 3,567 weekday daily trips to Parrish Lane, which is designated by the County as a *Minor Collector*. This level of additional traffic changes the functional role of the facility and leaves the current roadway design out of compliance with adopted County design standards, the Transportation Planning Rule, and with ORS 197.460(4). No mitigation measures are identified by the applicant and no discussion is provided within the report. 
- The applicant's assessment of OR 126/Parrish Lane shows a failing level of service with resort build-out in 2026. The applicant's suggested mitigation of adding left-turn lanes shows that even with these improvements the intersection continues to operate at a failing level of service that presents serious safety and operational issues for resort patrons and employees. There are additional assumptions in the analysis that could further degrade this performance as discussed herein. 
- There are several locations cited by the applicant as failing with or without their project. The destination resort creates a significant impact at these locations per Action 1F.1 and Action 1F.5 of the Oregon Highway Plan. While the applicant has proposed pro-rata payments to address 

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Number: 1 Author: jgulczynski Subject: Note Date: 4/5/2022 3:22:41 PM

The January 18th, 2022, submitted TIA is a modification to the original study completed in 2008 (see Page 38). The 2008 study was approved and is being updated as part of this application. The 2008 approval addressed Transportation Planning Rule (TPR) requirements. The approved study was completed before the Crook County TSP was adopted in 2017.

Number: 2 Author: jgulczynski Subject: Note Date: 4/7/2022 2:36:39 PM

The 2012 traffic count referenced in the comment package does not reflect existing conditions. The impact of Facebook and other industries between Parrish and Prineville have increased use of Parrish Lane. This is shown in the existing traffic counts collected in 2021 where the weekday PM peak hour alone is experiencing 80-100 trips. Therefore, the ADT on Parrish today is well over 100 ADT and likely greater than 500 ADT – a presumed threshold for improving County facilities. Additionally, the 3rd party reviewer cites the Crook County TSP by describing a Minor Collector as “Undeveloped or agricultural land between and through cities or rural service centers”. This quote comes from Table 3-1. Access Management Spacing Standards for Crook County Roads. It is not a reference for roadway facility capacity characteristics but instead refers to minimum spacing between driveways and intersections to support these type of typical land uses.

Number: 3 Author: jgulczynski Subject: Note Date: 4/5/2022 3:40:11 PM

Or126/Parrish Lane is an ODOT facility. The mobility standard for OR126/Parrish is v/c - not LOS. The proposed mitigation meets ODOT mobility targets. Left turn lanes are projected to decrease crashes by 33% (CMF Clearinghouse 254)

Number: 4 Author: jgulczynski Subject: Note Date: 4/7/2022 2:37:57 PM

Mitigation improves intersection operations and safety. Intersections meet mobility standards with mitigation as shown in TIA.

The OHP and TPR are addressed in the original 2008 study.

these deficiencies, it is unclear how this mitigation is intended to address the relevant criteria within the Transportation Planning Rule.

- The information within the traffic study will ultimately serve as the basis for a specific development agreement. Information that would be helpful in understanding the applicant's proposal includes the following:
 - Engineering estimates that can serve as the cost basis for the identified projects (cost estimates shown are unreasonably low)
 - Specific timing of when payments would be made by the applicant
 - Acknowledgement that cost escalation factors would be required for payments not provided up front
 - Identification of how these payments benefit the transportation system (as the applicant is presumably applying the balancing test of the TPR to achieve compliance, though this is not stated)
 - Finally, the applicant's study identifies impacts to intersections along OR 126 in Prineville but does not identify appropriate mitigation measures or cite the projects that were identified in the County's adopted OR 126 Corridor Plan.
- The applicant's traffic study places conditions on agencies and other approved development projects to address identified system deficiencies
- Finally, Crook County Code 7.1.7 requires that a traffic study address the following questions:
 - Whether the system can accommodate the development from both a capacity and safety standpoint
 - What transportation improvements are necessary to accommodate the proposed development
 - How will access affect the traffic operations on the existing transportation system
 - What impacts will occur on adjacent lands, and
 - Whether the proposed development meet current standards for roadway design.



While the report provides a lot of useful information and can serve as the basis for answering these questions, I do not believe that these questions are adequately addressed within this report and through the applicant's suggested mitigation.

Comment 1: Build-out Timeline

The build-out horizon year assessed within the TIA for the resort is 2026. This was not relayed within any prior scoping materials and was not agreed to by Crook County. The 2026 horizon presents an even shorter timeline than the original Crossing Trails analysis that assessed year 2028 conditions. Given that land use approval of the resort is not likely to be complete until 2023 (pending appeals), and site infrastructure will likely require at least a year to complete within this 580-acre property, it seems unreasonable to assume that build-out of a 750-unit resort, regardless of the unit types, will occur in four years.

As the siting of a destination resort within Exclusive Farm Use lands represents a significant departure from the land use (and population/employment) assumptions within the adopted Transportation System Plan (and the more detailed OR 126 corridor plan incorporated by reference into the TSP), the Transportation Planning Rule section on plan and land use regulation amendments is triggered for a destination resort (OAR 660-012-0060), similar to the analysis prepared for all other area resorts. This is also triggered by the addition of 3,567 weekday daily trips onto Parrish Lane, which is changing the functional role of a Crook County *Minor Collector*.

Number: 1 Author: jgulczynski Subject: Note Date: 4/5/2022 3:43:32 PM

Cost estimates are reflective of recent ODOT region 4 construction costs. Estimates can be refined based on further discussion and negotiation with ODOT.

Number: 2 Author: jgulczynski Subject: Note Date: 4/5/2022 3:45:10 PM

A phasing plan is not part of the transportation application. Payment schedule may be negotiated through further discussion with ODOT and the County

Number: 3 Author: jgulczynski Subject: Note Date: 4/5/2022 3:46:05 PM

Clarifying text can be added after agency review and further discussion/negotiation

Number: 4 Author: jgulczynski Subject: Note Date: 4/7/2022 2:34:36 PM

Benefits of mitigation stated as improvements to the system (address capacity and/or safety). The pro-rata contributions are consistent with proportionality of the impacts

Number: 5 Author: jgulczynski Subject: Note Date: 4/7/2022 2:35:26 PM

This is an ODOT intersection and can be further reviewed and discussed through negotiations with ODOT staff.

Number: 6 Author: jgulczynski Subject: Note Date: 4/7/2022 2:33:51 PM

Transportation system improvements conditioned on other approved developments or funded from agencies are included in the traffic report. No new conditions are placed on other approved developments as a part of the TIA.

Number: 7 Author: jgulczynski Subject: Note Date: 4/7/2022 2:33:20 PM

the TIA addresses existing conditions, transportation impacts related to the site generated trips, and proposed mitigation to address on site and off site impacts.

The County's roadway standards require improvements to roads with less than 100 ADT. The County road described in the comment review memo (Parrish Lane) experiences more than 100 daily trips in the existing condition. Therefore the development is not required to improve the pavement condition of the roadway (see TIA Figure 4).

The applicant's study appears to recognize the need to conduct a horizon year 2036 analysis, as page 38 of the report notes that this pertains to the Destination Resort Overlay. The applicant argues that since the original 2008 study assumed higher volumes than are currently present on the highway, and since the traffic volumes presented in the report are higher than those [also prepared by the applicant] presented in the County TSP this horizon year analysis is not required. This does not address the broader question of whether the TSP forecasts or those within the Crossing Trails traffic study are appropriate and useful in helping inform Crook County plans.

The County's adopted Transportation System Plan was prepared by Kittelson & Associates in 2017. This plan included a very limited subset of intersections along the OR 126 corridor (Parrish Lane was not included), and the locations that were assessed were analyzed based on application of simplified linear growth rates that were observed within traffic counts that were collected during different months of the year on OR 126 between 2010 and 2016. This type of forecasting did not account for the approved destination resorts. This type of forecasting assumes continuation of the current agricultural uses and through travel that occurs along the system today. As noted within the adopted Crook County Transportation System Plan:

"The future conditions analysis conducted as part of the TSP update showed that the Crook County roadway system is expected to continue to operate within acceptable operational targets, based on capacity and delay, over the next 20 years. County growth is largely dependent upon the development of several potential destination resorts."

The near-term build-out assumption within the revised Crossing Trails traffic study fails to acknowledge growth in regional trips from the City of Prineville, Bend, Redmond, and Madras as increasing through travel on study area intersections. While the applicant has included trips from approved area destination resorts (that may require a build-out horizon that is longer than 20 years), it has not accounted for highway travel growth. This provides an unrealistic assessment of area improvement needs and priorities.

The traffic study submitted by the applicant currently shows several intersections that are also identified within the County TSP medium/low priorities as severely failing with the Crossing Trails project within four years. If this timeline is correct there would certainly be an implication on the types of mitigation measures needed by the applicant to avoid these failures, as well as necessary changes to funding plans.

Comment 2: Workforce Housing

The applicant's traffic engineer cites workforce housing as a trip reduction measure, yet then notes that legally binding measures (such as those approved for Hidden Canyon) are not included within this application. In fact, it appears that there are no measures noted that would cater toward resort employees, lower costs for those employees, or otherwise incentivize employees to obtain housing within the area noted as "workforce housing". The applicant states:

"...since residents have the flexibility to work wherever, yet the housing is within proximity to the resort, it was estimated a conservative, reasonable percentage of residents would not use the regional transportation network due to working at the resort."

It is unclear what then distinguishes the "workforce housing" from any other housing within the destination resort, or what differentiates this housing from any of the housing within any of Crook County's destination resorts? The report makes no attempt to correlate employment data at Brasada or Pronghorn (whose residents may also choose their employment location), and it seems unlikely that 25% of those residents are employed by the respective resort. If the housing is being sold or rented at market

pricing without priority or incentive for resort employees this may be more appropriately labeled as “housing”, and it remains unclear why any distinction or trip reduction is being applied?

The trip generation estimates for the 100 single-family dwelling units identified as “workforce housing” were classified with ITE Land Use 210, which is reflective of single-family detached suburban homes rather than the more typical destination resort residential trip rate. Single-family homes have a much higher trip rate than resort units (by a factor of three), so even with the 25% internal reduction this still shows nearly double the trips of a typical resort home. While there does not appear to be any basis for the cited trip reduction, it is also questionable why the applicant would not have used the resort trip rate, and nothing in the report provides context on this decision. However, the applicant’s argument that this is conservative is correct, so no changes or revisions are requested.

Comment 3: Trip Distribution Pattern

In response to the applicant’s scoping materials we noted that it was stated that distribution patterns were premised on existing turning counts. We highlighted that the distribution patterns assumed are opposite the historical traffic counts I had access to within the area, with an eastern bias toward Prineville identified in various traffic counts collected at the Tom McCall intersection with OR 126. The applicant’s response was that their traffic counts were different than the historic counts I had and showed the bias toward the west:

“Review of the 2021 traffic count data collected at OR 126/Tom McCall Road indicated 42% of the volume was coming to/from the east leg of OR 126 toward Prineville. This confirms use of a 40% distribution toward Prineville.”

The applicant’s traffic counts are contained within the appendices of the separate TIA document, and the Tuesday, November 16, 2021 traffic counts are located on page 218 of 435 of the submitted report. The data collected by the consultant’s subsidiary traffic counting company shows the following observed turning movements:

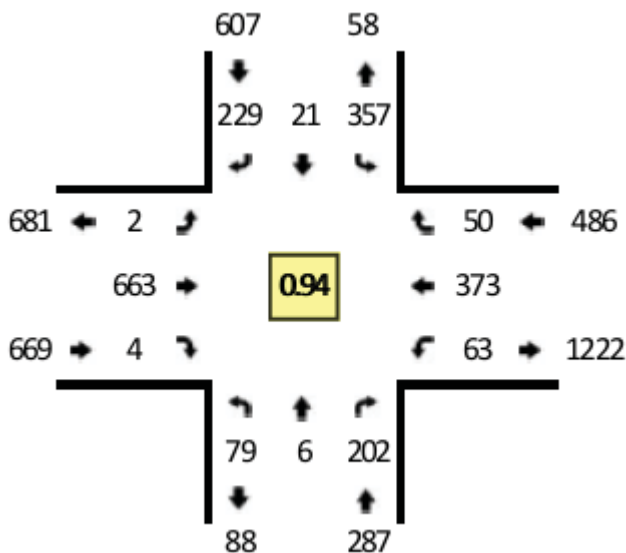


Figure 1. OR 126/Tom McCall Traffic count (Tuesday, November 2021, 4:00 to 5:00 p.m.). The counts label the northern leg (southbound approach) as Tom McCall Road.

The southbound traffic on the Tom McCall approach shows 38% of the trips toward Bend/Redmond (which is west, or toward the left), 59% toward Prineville (east, toward the right), and 1% south toward Millican Road. These percentages become more pronounced when considering the bi-directional inbound and outbound volumes.

One potential reason that the applicant could consider a higher bias toward the west is that it does appear that traffic volumes on Parrish Lane, Williams Road, and even Reif Road are elevated. This seems to indicate that data center trips headed west are using Houston Lake Road to bypass delays at the OR 126/Tom McCall intersection. However, this would indicate even more pronounced failures at the OR 126/Tom McCall intersection and a higher priority to begin planning additional improvements.

There are other reasons that a destination resort may show a higher bias toward the west, but it does not appear that the traffic counts support this rationale as stated by the applicant. The concern is that if the applicant shows more trips headed to and from the east that it will shift the right-turns at Parrish Lane into left-turns, which is already shown as a failing movement. These trips will then continue toward the failing Tom McCall roundabout, the failing OR 370 intersection, and the failing Prineville “Y” junction. It is again recommended that the applicant review these prior statements and assumptions and provide appropriate revisions or justification for the patterns identified.

The applicant further argues that their distribution pattern matches what was estimated for Hidden Canyon, and cites that Hidden Canyon is located “approximately the same distance from OR 126 as Crossing Trails”. Distribution patterns at Hidden Canyon were based on data collected at the adjacent Brasada Ranch which is contiguous to Hidden Canyon Resort and will exhibit the same travel patterns.

I would recommend that the applicant look at the comparative distances to nearby population centers and consider the various types of arrival/departure, employment, and daily outing trips that are common in resorts. The applicant should also look at Eagle Crest Resort (which is located within similarly close proximity to Redmond) in comparison to rates at Brasada, which further highlights how the location can influence convenience-oriented trips. This was highlighted within the 2006 trip generation study that was applied as the basis for the applicant’s cited resort trip rates.

I neither agree nor disagree with the applicant’s distribution estimates, but the basis for these estimates does not match what is stated by the applicant in their scoping materials, traffic study, or the response to the specific comment raised. My underlying concern is the potential impact this has on the operations of the OR 126/Parrish Lane intersection since this is already reported by the applicant as a failing intersection even with their suggested mitigation measures.

Comment 4: Intersection Needs

The original scoping materials indicated that the OR 126/Tom McCall intersection improvement needs had been addressed and improvements to OR 126/Powell Butte Highway intersection would be addressed by the approval conditions on Hidden Canyon Resort. Our response relayed that the analysis presented by the applicant would need to demonstrate that the added trips from Crossing Trails needs to continue to meet the long-term area needs. The applicant’s response then included analysis of these locations which showed significant failures at both intersections (even assuming improvements at the OR 126/Powell Butte Highway intersection to a single-lane roundabout) and offered pro-rata payments.

- At OR 126/Tom McCall Road, the TIA shows that the intersection operates over capacity today (with inclusion of the data center construction trips), with the southbound approach experiencing

LOS F and a v/c ratio of 1.11¹ under existing conditions. The future analysis scenario shows a v/c ratio on the southbound approach in four years of 1.50, or that the roundabout is carrying 50% more traffic than it can process. This far exceeds the alternative mobility targets adopted by ODOT as part of the design of the roundabout. The applicant has proposed a pro-rata contribution of \$50,000 toward this intersection for its 106 added weekday p.m. peak hour trips.

- The applicant's assessment of the OR 126/Powell Butte Highway intersection shows a marked increase from the crash rate experienced in 2017. The County Transportation System Plan showed that the intersection operated at a Level of Service "D" at a v/c ratio of 0.19, with only three reported crashes (only one of which resulted in an injury). The Crossing Trails analysis shows 15 crashes at the intersection, with 11 of these resulting in injuries and the intersection operating at Level of Service "F" with an existing v/c ratio of 2.82². This raises the question of whether Crook County and ODOT can wait for Hidden Canyon resort to reach its 250-unit threshold to construct an improvement, particularly if Crossing Trails will be fully built-out with 750 units in four years. The applicant has cited a contribution of \$120,000 to offset the impact of their 142 weekday p.m. peak hour trips.

OR 126/Tom McCall

Related to the OR 126/Tom McCall intersection, construction traffic at the Facebook/Meta data centers has continued at an elevated level for several years with no sign of abatement, with various fluctuations in travel demand depending on the specific construction activities that are occurring. There are additional lands in the area that could further support continued construction efforts for years into the future.

These findings of over-capacity conditions are not unique to the Crossing Trails resort, and only a portion of the delays are caused by resort trips. Similar over-capacity findings are shown within the traffic studies prepared for the data centers, showing that the southbound approach carries higher volumes than eastbound or westbound travel along OR 126 during peak construction periods (and operates acceptably outside of these peaks).

However, as it pertains to this project the effect of these operational issues is the diversion of additional trips onto Houston Lake Road that seek to bypass this delay. These trips are reconnecting to OR 126 along routes such as use of Parrish Lane, Williams Road, and Reif Road. While this is an existing issue, the traffic study for Crossing Trails assumes that about half of its traffic to (and from) Prineville will rely on Houston Lake Road, thereby reducing the volume of traffic at the primary resort connection of OR 126/Parrish Lane and again impacting how many left-turns access the highway at this intersection.

The analysis presented in the report states that the OR 126/Tom McCall roundabout would require northbound and southbound right-turn deceleration lanes and a second eastbound through lane to meet ODOT's adopted alternative mobility standards. These are substantial improvements that would extend well beyond the roundabout entry, requiring approach widening along OR 126 entering and exiting the

¹ Page 16, see Figure 4 and Page 34, Figure 12

² Page 16, see Figure 4

roundabout, and would also call into question whether alternative treatments (such as dual eastbound and westbound lanes) would provide a more functional, safer, and more intuitive design.

Costs for a single deceleration lane would likely be in the range of \$250,000 to \$1,000,000 depending on the control type and right-turn design. Costs for widening of the eastbound OR 126 approach and development of a second eastbound through lane would be much higher given the necessary queue storage and merge area, likely within the \$2,000,000 range. The applicant's traffic engineer has suggested a \$50,000 financial contribution to address these impacts.

OR 126/Parrish Lane

The OR 126/Tom McCall intersection is a concern and there have been on-going discussions related to the need to implement specific improvements to address the on-going data center traffic. The broader concern is that if there is no capacity at the Tom McCall Road roundabout then motorists will not divert to Houston Lake Road, and the impacts at the OR 126/Parrish Lane intersection will be even worse than those shown. The report assumes half the volume leaving the site uses Houston Lake Road access OR 126 at the Tom McCall roundabout, and half of the returning trips from Prineville also travel out of direction along Houston Lake Road similarly avoiding the OR 126/Parrish Lane intersection.

Even with this reduced amount of traffic using Parrish Lane, the traffic report shows that in 2026 with turn lane improvements that the highway access will fail, resulting in higher risk maneuvers for resort traffic and for the rural/agricultural uses that also rely on this route. Mitigation is proposed as an eastbound left-turn lane and a southbound right-turn lane, but even with these modifications the intersection continues to operate at a failing level of service.

Further analysis or documentation would be helpful in understanding the needs at Parrish Lane and viable solutions options. I do not recommend that Crook County approve an intersection that the applicant states will fail in 2026. As part of this revised analysis the following is requested from the applicant:

- Confirmation that the applicant has reassigned Wiley Road trips onto Parrish Lane to reflect the closure of this intersection.
- Review and, if appropriate, update the distribution patterns to ensure that they appropriately reflect travel patterns in the area.
- Review the rerouted traffic assigned to Houston Lake Road, particularly with the observed failure on the southbound approach of the OR 126/Tom McCall intersection. I recommend that the applicant conduct travel runs to identify whether westbound traffic on OR 126 would choose to reroute along Houston Lake Road as assumed in the report rather than proceed directly to the resort. While resort employees may be aware of the Houston Lake Road routing option, it is unlikely that tourists will select travel routes based directly on mapping applications, guiding them to Parrish Lane.

The applicant's analysis showing failing conditions within four years at the highway intersection raises concerns about the longevity (and safety) of this access, particularly as no long-term improvements were planned at Parrish Lane by ODOT or the County through the corridor plan or the County's Transportation System Plan. Accordingly, this impact is specific to the siting of the resort and should be fully mitigated by the resort.

OR 126/OR 370 Intersection

The traffic study supplement prepared to assess the continued impacts of resort travel into Prineville show that the OR 126 intersection with OR 370 is failing today, and will continue to fail with or without the destination resort. The study shows an existing v/c ratio of 1.52, with this value increasing to a v/c ratio of 2.89 in what is labeled as 2025 [presumably 2026], and increasing to a v/c ratio of 3.45 with the resort.

The applicant's study suggests removing the uphill passing lanes along OR 126 and replacing this with side by side left-turn lanes (see Figure 3 below). The analysis output sheets suggests that this mitigation will improve the critical eastbound v/c ratio from 3.45 to 0.79. However, it appears that the analysis files have been incorrectly coded and do not match the existing layout of the intersection or the mitigated configuration shown in the diagram. There is presently a northbound left-turn lane in place onto OR 370 as well as onto Rimrock Drive, and conflicts do not occur between these low volume back-to-back left-turn maneuvers. There is also a taper area north of the OR 370 intersection that motorists commonly turn into to make a two-stage left-turn maneuver. While this taper area could be restriped as a two-way left-turn lane (and would not require removal of the uphill passing lane), the current delays and improvement shown are not as presented in the report and would not be recommended.

As identified within the OR 126 corridor plan (and the Prineville TSP), there are constraints to the OR 126/OR 370 intersection, and the volumes along OR 126 are pushing the limits of a three-lane section today that would not support removal of through capacity to meet the travel needs. There are also directional shifts in the morning and evening travel patterns that are not captured within this TIA.

The OR 126 Corridor Plan shows a five-lane section along OR 126 between Tom McCall Road and the Prineville "Y", and a multilane roundabout or signal at this intersection within the selected growth scenario that should serve as a more appropriate basis in considering improvements.

OR 126/US 26 (Prineville "Y" Junction)

The supplement shows that there is a significant impact of the resort at the OR 126/US 26 junction. However, after recognizing this impact the report states that "the Prineville TSP recognizes the need for further evaluation of the "Y" junction and does not include a recommended or a funded change to address existing operational needs."

This statement does not recognize that the Prineville TSP was completed in 2013 directly following 2012 completion of the OR 126 corridor plan that had just assessed the entirety of the highway corridor from the Crook/Deschutes County line to the Prineville "Y". The corridor plan had already been adopted by Crook County, Prineville, and ODOT, and was integrated into the scope of the City's 2013 Transportation System Plan to avoid redundant work efforts. The Plan shows the likely need for a multilane roundabout or traffic signal within the selected growth scenario, and members of the applicant's team were involved in all aspects of these prior plans and even reviewed these plans as part of the "Planning Documents and Findings" on page 3 of the submitted traffic report. The included summary of this plan omits details related to the OR 126/OR 370 and Prineville "Y", with the key graphic that was prepared showing the overall system needs as provided below (see Figure 2). This includes the following findings and recommendations not noted in the applicant's literature review:

- OR 126 between Tom McCall Road and the "Y" will require a five-lane cross-section
- A multilane roundabout (or signal) is needed at the "Y"
- A multilane roundabout (or signal) is needed at the OR 370/OR 126 intersection

ODOT and the City of Prineville are currently in the process of scoping the next phase of the OR 126 Corridor plan to provide needed design details related to 3rd Street that will allow these projects to move into design and construction. I understand that the applicant is aware of these efforts and has discussed these projects with agencies, and similar to other projects included in the applicant's report a financial contribution (rather than a capacity improvement) is likely the most appropriate mitigation measure.

Further design details will need to be developed to determine how to manage access to adjacent businesses with implementation of these projects, but like all the other improvements identified by the applicant throughout this study area, this design work does not need to occur as part of this destination resort project to provide similar financial contributions to offset the incremental impact of the resort.

Scenario	Existing	Scenario A 2% Annual Growth for 10 Years	Scenario B 2% Annual Growth for 20 Years	Scenario C 5% Annual Growth for 20 Years	Scenario D 8% Annual Growth for 20 Years	Scenario E 11% Annual Growth for 20 Years	Scenario F 14% Annual Growth for 20 Years	Scenario G 17% Annual Growth for 20 Years	Scenario H 32% Annual Growth for 20 Years
Roadway Segment Needs									
West of Powell Butte Hwy									
Powell Butte Hwy to Tom McCall Rd									
Tom McCall Rd to Prineville "Y"									
Intersection Needs									
Powell Butte Hwy									
Williams Road									
Airport Way									
Tom McCall Rd									
O'Neil Hwy									
Prineville "Y"									

Existing Lane Configuration

2-Lane Highway (Roundabout or Signal)

2-Lane Cross-Section

4-Lane Highway (Roundabout or Signal)

Other System Improvements or Grade-Separation

4-Lane Cross-Section

5-6 Lane Cross-Section

Note: Red outline highlights the selected growth scenario.

Figure 2. OR 126 Highway Plan showing the growth scenarios that necessitate a five-lane highway section and multilane roundabouts at the O'Neil Highway and "Y" Junctions.



Figure 3. Current intersection configuration with back-to-back left-turns between OR 370 and Rimrock Drive.



Figure 4. Applicant's suggested removal of the uphill passing lanes and replacement of the back-to-back left-turn lanes with side-by-side turn lanes.

Comment 5: Mitigation Approach

The materials from the applicant show several failures throughout the transportation system occur by the year 2026. This is a much shorter time period than failures have previously been identified, and could be more reflective of assumed growth and area development than is relayed within the report. Regardless, with the level of failures and timing of these failures it is unclear whether the recommended financial contributions provide ODOT or Crook County any realistic assurance that severe safety and operational impacts could be avoided.

Page 36 of the TIA shows pro-rata costs based on assumed project costs. The applicant has assumed an estimated cost of \$1.5M for a single-lane roundabout, \$1M to widen the Tom McCall roundabout with two auxiliary turn lanes and a separate eastbound through lane, and \$3M for a multilane roundabout at the OR 126/Powell Butte intersection, no contribution toward the impacts at the Prineville "Y", and \$50,000 to address the OR 126/OR 370 intersection (based on an unsuitable treatment). Each of these costs is an order of magnitude low in comparison to recent construction costs on the State Highway system, and I would recommend that a more detailed engineering cost estimate be used as the basis for these costs, particularly given the escalation in construction costs that has occurred since many of the area plans were adopted.

There are several statements in the traffic report that should be reason for concern:

- “ODOT/The City of Prineville shall consider widening the OR 126/Tom McCall Road roundabout. Based on current and projected volumes, two lanes may be required for the eastbound and southbound approaches along with a northbound right turn yield bypass lane.” – Executive summary, page 6
- “Hidden Canyon shall construct a multilane roundabout at OR 126/Powell Butte Highway...” - Executive summary, page 6
- “Crook County shall construct a single lane roundabout at Powell Butte Highway/Alfalfa Road as this is a primary route for both Brasada Rach [sic] and Hidden Canyon and is impacted by site trips to and from Bend.” – Executive summary, page 7

I would recommend that before the County accepts this application that the applicant review the TIA and remove references that instruct agencies or other approved projects to address mitigation issues noted as part of their application.

Finally, it is unclear from the report what the timing of any improvements will be. None of the projects identified as necessary to support the Crossing Trails Resort include any type of mechanism that would indicate what would require the improvement and/or payment occur. While I assume that the applicant’s initial phase would improve the Parrish Lane intersection then close Wiley Road, there may be benefit in leaving Wiley Road open to support direct access to the nearby quarry (with accompanying mitigation measures). I also assume that improvements to Parrish Lane will be required of the applicant prior to hauling in manufactured units, and that wayfinding signage from the highway would be provided prior to any level of resort occupancy so that tourists can find their destination along these dark and narrow streets. However, the report does not address these functional and safety needs; I did not review the burden of proof and additional details may be available within the overall application.

Comment 6: Roadway Sufficiency

The product types at this proposed resort vary from other area resorts and include a substantial proportion of manufactured homes, along with an area designated as a “Future RV Park”. The roads in this surrounding area are narrow, lack shoulders, and as relayed from the County roadmaster also include structural concerns. These are not roads that have been designed or built to support the infrastructure construction required in a resort community, and the applicant’s TIA does not address where source material will be provided from. The closest quarry site is located on the opposite side of OR 126 directly opposite Wiley Road, which the applicant has noted is planned for closure. Manufactured homes will presumably be transported from the valley east along OR 126 into the site. There is no space alongside a manufactured home to travel along Parrish Lane today.

In response to this comment the applicant has noted that structural adequacy of roads is typically not required in traffic studies. This is largely due to most traffic studies being prepared within urban areas where the surrounding roads can support the incremental and temporary impacts of construction traffic. Similar concerns and approval conditions have been provided by Crook County on other destination resorts.

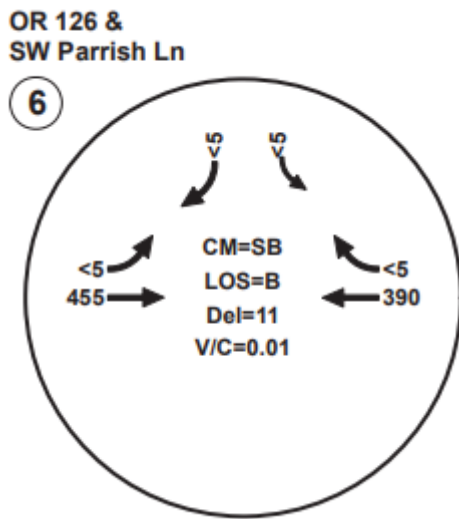


Figure 5. Historical 2012 traffic counts at OR 126/Parrish Lane

Substantial roadway improvements have been provided or planned surrounding other destination resorts, including Sunriver, Eagle Crest, Black Butte Ranch, Tetherow, Brasada, Remington Ranch, and Hidden Canyon. The existing traffic counts at the resort show 94 bi-directional vehicles using Parrish Lane. This is an elevated volume that reflects rerouted data center traffic, as historical traffic counts show rural volumes of less than 10 bidirectional vehicles (see inset Figure 5 from the OR 126 Corridor Plan). With the low rural volumes, the roads remain adequate to follow or pass larger farm vehicles or slow to pass approaching motorists when necessary.

The resort’s traffic study shows that the resort will generate a total of 3,567 weekday daily trips onto Parrish Lane. This is a substantial change to a road designated as a *Minor Collector*. The County’s TSP describes a *Minor Collector* as serving “*Undeveloped or agricultural land between and through cities or rural service centers.*” This

is not the characteristic of a road serving a destination resort, effectively changing the functional classification of Parrish Lane, and again a reason that TPR will need to be addressed.

Crook County’s adopted roadway standards are premised on roads that serve an Average Daily Traffic volume of 0 to 20 trips, 21-99 trips, or more than 100 daily trips. On this basis the resort will be responsible for improving Parrish Lane to County standards for a road with an ADT greater than 100 daily trips, as the road has not been designed to support the ADT levels projected by the applicant.

NEXT STEPS

These comments are intended to provide a formal recommendation to County staff for their consideration or dismissal as they see appropriate. I will follow up on these draft comments with staff, and following that discussion recommend reaching out to schedule a meeting with the applicant’s traffic engineering team and planning staff.

Thank you for the opportunity to provide these comments, if you have any questions I can be reached at (503) 997-4473 or via email at joe@transightconsulting.com.