# 10th Street Subdivision Traffic Impact Analysis

City of Hermiston Tax Lots 4N2801B001500, 4N2801B001501, and 4N2801B001503 Hermiston, Oregon 97838

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# Traffic Impact Analysis for 10th Street Subdivision Dennis Gisi & Victory Lighthouse Church

# Tax Lot Number: 4N2801B001500, 4N2801B001501, 4N2801B001503 Hermiston, Oregon

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#### 1 INTRODUCTION

The purpose of this study is to determine the impact of the traffic generated by the 10th Street Subdivision (Project) on the surrounding roadway infrastructure. The project sites are shown on the vicinity map (Figure 1). This study will determine if mitigation is required to keep the roadways operating safely and at capacity levels acceptable under the current level of service (LOS) standards. This report documents the findings and conclusions of a traffic impact analysis (TIA) conducted for the proposed site plans (Figure 2) for property located in Hermiston, Oregon.

# 1.1 Scope of Study

This study documents the existing and proposed conditions, traffic data, safety analysis, and intersection operations in accordance with the City of Hermiston (City) TIA guidelines, which are presented within the City's *Public Works Standards, Technical Specifications, and Standard Drawings* (see References).

The following intersections were identified for analysis:

- 1. 10th St / Theater Ln
- 2. 10th St / Punkin Center Rd
- 3. US-395 / Punkin Center Rd
- 4. US-395 / Theater Ln
- 5. 10th Street / First Access (Proposed)

- 6. 10<sup>th</sup> Street / Second Access (Proposed)
- 7. Theater Lane Access (Proposed)
- 8. 10th Street / Church Access
- 9. 10<sup>th</sup> Street / Third Access (Proposed)
- 10. 10<sup>th</sup> Street / Fourth Access (Proposed)

This TIA includes analysis of future background conditions growth based on an assumed 2% annual growth rate.

This TIA is prepared for submission to the City. The traffic-related issues addressed in this report include:

- Existing traffic conditions
- Proposed site-generated traffic volumes and their distribution
- Build-out year (2025) conditions without and with the project
- Capacity analysis of the existing and future conditions for weekday PM peak hours
- Safety analysis of the existing and future conditions
- Recommendations for mitigation of traffic impacts and conclusions

### 1.2 Existing Site Conditions

The project site consists of three tax lot numbers (4N2801B001500, 4N2801B001501, and 4N2801B001503) and is located at 10th Street in Hermiston, Oregon. Tax lot number 4N2801B001500 is owned by Dennis Gisi, and 4N2801B001503 is owned by Victory Lighthouse Church. Tax lot number 4N2801B001501 is not currently owned by Dennis Gisi but is included as part of this traffic impact analysis (TIA) in case of future development of the lot. It is assumed that the lot will be identical to Tax Lot Number 4N2801B001500 (the 45-lot site) as seen on the site plan in Figure 2.

All three tax lots are currently undeveloped.

#### 1.3 Existing Infrastructure

The existing infrastructure and operational traffic conditions in the study area were documented. Roadway conditions were studied to confirm that the roadway is currently operating in a safe and efficient manner.



#### 1.3.1 Land Uses

The land uses surrounding the site are documented to help identify the site location and provide reference for any discussion of conditions that might impact the adjacent properties. The land uses surrounding the site are shown in Table 1.

**Table 1. Land Uses Around the Site** 

North of Site						
Zoning	Unzoned					
Description	Within City Urban Growth Boundary (UGB)					
Existing Use	Undeveloped					

West of Site						
Zoning	R-3					
Description	Medium-High Density Residential Zone					
Existing Use	Elementary School					

East of Site							
Zoning	Unzoned						
Description	Within City UGB						
Existing Use	Residential & Undeveloped						

South of Site					
Zoning	Unzoned				
Description	Within City UGB				
Existing Use	Residential				

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# 1.3.2 Existing Roadways

The existing roadways providing access to the site are 10th Street and Theater Lane. Data was gathered on these and other roadways in the study area to inform operations analysis of the existing roadway system. The pertinent information regarding the study area roadways is tabulated below in Table 2.

**Table 2. Existing Roadway Information** 

		Speed Limit	Lane Configuration				
Roadway Name	Classification <sup>1</sup> (mph)		Lanes	Sidewalks	Bike Lanes	TWLTL	
US-395	Highway	45	4	Yes	No	Yes	
10th Street	Urban Major Collector	45	2	No	No	No	
Theater Lane	Rural Collector	25	2	No	No	No	
Punkin Center Road	Urban Major Collector	45	2	No	No	No	



mph: miles per hour, TWLTL: two-way left-turn lane

# 1.3.3 Major Intersections and Traffic Controls

Figure 3 shows existing lane configurations and intersections controls for each studied intersection.

#### 1.4 Traffic Volumes

#### 1.4.1 Baseline Traffic Volumes

Turning movement counts were gathered for the weekday PM (4:00 to 6:00 pm) peak periods by All Traffic Data on January 9, 2024, at the following list of studied intersections:

- 1. 10th St / Theater Ln
- 2. 10th St / Punkin Center Rd
- 3. US-395 / Punkin Center Rd
- 4. US-395 / Theater Ln

Figure 4 shows the 2024 existing volumes based on these counts. Copies of the count data used are provided in Appendix A.

#### 1.4.2 Background Growth

Background growth is a linear increase in traffic volumes that is not attributable to specific developments. A linear background growth of 2% was applied to all 2024 existing peak hour movement volumes between public roadways at the studied intersections.

#### 1.4.3 In-Process Projects

There is one in-process project currently in the study area. MonteVista Homes, a 250-lot single family home development west of the Project site. Little information is provided with respect to the build-out date of the project. It will be assumed that the first two phases of the project will be built when our Project is built out in 2025. See Figure 5 for the In-Process Project trip distribution and Appendix G for the reference in-process project information.

#### 1.4.4 Future Volumes

The baseline volumes for the 2025 intersection operations analyses, termed the 2025 Without Project volumes, represent the sum of 2024 existing traffic and background growth. Figure 6 presents the 2025 Without Project volumes for the weekday PM peak hour. These volumes were input to the intersection operations analyses, addressed later in this TIA.



<sup>&</sup>lt;sup>1</sup> Based on the City of Hermiston Transportation System Plan. See https://hermiston.maps.arcgis.com/apps/View/index.html?appid=14224b2c622c452ba28e985646812b13

#### 2 PROPOSED CONDITIONS

The proposed development will add traffic to the roadway system. The project location, size, and completion date are all important elements that need to be considered to determine the development's impacts on safety and capacity. It is also important to exine how the project will operate with the existing transportation system, estimate how much new traffic it will generate, and predict where traffic generated by the site will be distributed. Furthermore, this section will address any funded infrastructure changes planned by other agencies or developers. All these elements are important in assessing the traffic impacts of this project.

#### 2.1 Project Description

The applicants, Dennis Gisi and Victory Lighthouse Church, propose to develop subdivisions and a church expansion along 10th Street located at Tax lot numbers 4N2801B001500, 4N2801B001501, and 4N2801B001503 in Hermiston, Oregon. The applicants propose constructing a total of 113 single family homes and a 10,000 square-foot (sf) expansion of additional church amenities/sanctuary developed in accordance with City of Hermiston zoning ordinances for low density residential development.

Tax lot number 4N2801B001501 is not currently owned by Dennis Gisi but is included as part of this traffic impact analysis (TIA) in case of future development of the lot. It is assumed that the lot will be identical to Tax Lot Number 4N2801B001500 as seen on the site plan. See Figure 1 for the vicinity map and Figure 2 for the site plans. The estimated completion date of the project is 2025.

#### 2.2 Access and Circulation

The applicants propose four new accesses to the site through 10th Street, one new access to the site on Theater Lane, and there is an existing access to the Church. See Figure 2 for the site plan. The two most northern proposed accesses closely align with the new Loma Vista Elementary School accesses.

# 2.3 Trip Generation and Distribution

The following sections rely on data provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* (see References). Detailed trip generation calculations are provided in Appendix B.

#### 2.3.1 Proposed Trip Generation

The trips generated by the site are estimated by treating the development as 113 units of "Single-Family Attached Housing" ITE land use code 210 and 10,000 square-feet of "Church" ITE land use code 560. The trip generation results are summarized in Table 3, and the calculation details are attached. The site trips are presented for the average weekday and the PM peak hour between 4:00 pm and 6:00 pm.



	Table 3	3. ITE Trip Gener	ation – 10th	Street Subdivisi	ion		
Land Use (ITE Code)	•	Single-Family Detached Church Housing (210) (560)  Dwelling Units 1,000 sf GFA <sup>2</sup> Combined		(560)			
Independent Variable	Dwelli					Combined	
Size	113		10				
Time Period	ADT <sup>1</sup>	PM Peak Hour	ADT	PM Peak Hour	ADT	PM Peak Hour	
In	565	70	38	2	603	72	
Out	565	41	38	3	603	44	
Total Trins	1 130	111	76	5	1 206	116	

<sup>&</sup>lt;sup>1</sup> ADT = Average Daily Traffic

Findings: The Project is anticipated to generate 1,206 vehicle trips during a typical weekday and 116 vehicle trips during the PM peak hour.

# 2.3.2 Proposed Trip Distribution

The trip distribution is based on engineering judgement and feedback from ODOT and the City. Trip distribution and trip generation were used together to assign trips to access points and the studied intersections. The distribution of site-generated trips was estimated as follows:

- 60% to and from US-395, north of Punkin Center Road.
- 5% to and from Punkin Center Road, west of US-395.
- 15% to and from US-395, south of Theater Lane.
- 5% to and from Theater Lane, west of US-395.
- 10% to and from NE 10th street, south of the Theater Lane.
- 5% to and from Punkin Center Road, east of 10th Street.

Site-generated trip distribution and assignments are provided in Figure 7.

## 2.3.3 Future Volumes with Project

Figure 8 presents the 2025 With Project volumes, or the sum of Without Project volumes and the site-generated trips, for the weekday PM peak hours.



<sup>&</sup>lt;sup>2</sup> sf GFA = Square-Foot Gross Floor Area

#### 3 INTERSECTION OPERATIONS AND ROADWAY CAPACITY ANALYSES

#### 3.1 Operations Description

Traffic operations are assessed in terms of LOS, a concept developed by transportation engineers to qualify the level of operation of intersections and roadways (*Highway Capacity Manual* (HCM), see References). LOS measures are classified in grades "A" through "F," indicating a range of operation, with LOS "A" signifying the best level of operation and LOS "F" representing the worst level.

LOS at unsignalized intersections is quantified in terms of average delay per vehicle. LOS "A" reflects full freedom of operation for a driver, while LOS "F" represents operational failure.

The volume-to-capacity (v/c) ratio quantifies the portion of the theoretical capacity consumed by traffic demand volume. A v/c ratio of zero (0.00) reflects none of the capacity is consumed and all the capacity is fully available. A v/c ratio of one (1.00) reflects all the capacity consumed and represents operational failure. The v/c ratio can be calculated for an intersection approach lane or for a signalized intersection, with the latter calculation aggregating the v/c ratios of the critical movements.

#### 3.2 Operation Standards

The City only uses LOS to evaluate intersection operations. The mobility standard for the studied intersections that fall under the City's operation standard is LOS "D" or better according to City of Hermiston Transportation System Plan (See Reference). This standard is applicable to the 10th Street/Theater Lane, 10th Street/Punkin Center Road, and access intersections.

ODOT has a mobility standard of a v/c ratio of 0.80 or less for Freight Routes on a Statewide Highway located inside an Urban Growth Boundary in a non-metropolitan planning organization (MPO) with a speed limit greater than or equal to 45 miles per hour (see Appendix C). The mobility standard for the intersecting local roads is a v/c ratio of 0.90 or less. These standards apply to the US-395 / Punkin Center Road and US-395 / Theater Lane intersections, with US-395 being the Freight Route standard and the other roads being the intersection local roads standard.

#### 3.3 Analysis Methodology

The project's traffic impacts were estimated to determine the changes in traffic conditions. To make these determinations, the following were employed:

- The individual peak hour volumes were analyzed for 2024 and 2025.
- The peak hour factor (PHF) for the overall intersection, as calculated from the count data, was applied for the 2024 baseline analysis scenario and the future 2025 conditions.
- The counts on ODOT facilities were seasonally adjusted based on the ODOT 2022 On-Site Automatic Traffic Recorders Table and ODOT 2023 Seasonal Trend Table according to Analysis Procedures Manual, Version 2 (See Reference).
- A minimum heavy vehicle percentage (HV%) of 2% was assumed for each movement for all analysis scenarios. The HV% calculated from the count data was applied if it was greater than 2%.
- Baseline traffic volumes on the surrounding street system were determined prior to adding the traffic impacts of the proposed project. Baseline traffic volume estimates were prepared for 2025 Without Project conditions.



- As noted previously, trip generation estimates for the project were prepared for the weekday
   PM peak hour on the surrounding street system.
- Cumulative traffic impacts of the proposed Project were determined by adding the projectgenerated traffic to the background weekday PM peak traffic at all studied intersections. This is termed the 2025 With Project condition.
- The LOS for all signalized and stop-controlled intersections was calculated with Trafficware's Synchro software, Version 11, based on HCM 6th Edition (see References) methodologies.
- Queuing analysis was performed to evaluate queue storage adequacy at the studied intersections. The 95th percentile queues were estimated using simulation models in Trafficware's Synchro software, Version 11
- The intersection results report the critical approach LOS and delay for the City's intersections and reports the major and minor approach v/c ratios of ODOT highway intersections.

### 3.4 Level of Service Analyses

LOS calculation reports for the study area intersections are provided in Appendix D. The key analysis findings are listed in the following tables. LOS results that do not meet the City's standards are shown in bold text.

Lane group abbreviations for the following tables are defined and patterned as follows:

- WB = Westbound, EB = Eastbound, NB = Northbound, SB = Southbound
- WBT = Westbound Through
- WBR = Westbound Right
- WBL = Westbound Left
- WBTR = Westbound Through-Right
- WBLT = Westbound Left-Through
- WBLR = Westbound Left-Right
- WBLTR = Westbound Left-Through-Right

# 3.4.1 2024 Existing Conditions

Table 4 describes the LOS for each intersection within the study area for the 2024 baseline volumes during the PM peak hours.

**Table 4. Estimated 2024 LOS for Existing Conditions** 

	Intersection Control	B. C		PM Peak Hour		
Intersection		Mobility Standard	LOS	Delay (sec/veh)	v/c (lane)	
10th St / Theater Ln	TWSC	LOS D	В	10.3	0.012 (WB)	
10th St / Punkin Center Rd	TWSC	LOS D	В	11.1	0.082 (NB)	
US-395 / E Punkin Center Rd	Signalized	$v/c \le 0.80^1$ $v/c \le 0.90^2$	В	14.1	0.54 (SBTR) <sup>1</sup> 0.50 (WBR) <sup>2</sup>	
US-395 / Theater Ln	Signalized	$v/c \le 0.80^1$ $v/c \le 0.90^2$	В	19.0	0.70 (NBTR) <sup>1</sup> 0.71 (EBR) <sup>2</sup>	



	Intonoction	Mobility Standard	PM Peak Hour			
Intersection	Intersection Control		LOS	Delay (sec/veh)	v/c (lane)	
10th St / Church Access	TWSC	LOS D	Α	o	0	

sec/veh: seconds per vehicle; TWSC: two-way stop control

Findings: As shown in Table 4, all studied intersections currently operate at an acceptable LOS in the 2024 Existing conditions during the Weekday PM peak hours.

# 3.4.2 2025 Future Conditions Without Project

Table 5 describes the LOS for each intersection within the study area for the 2025 volumes without the project trips during the PM peak hours.

**Table 5. Estimated 2025 LOS for Without Project Conditions** 

	Intersection Control	Na hilia		PM Peak Hour		
Intersection		Mobility Standard	LOS	Delay (sec/veh)	v/c (lane)	
10th St / Theater Ln	TWSC	LOS D	В	10.3	0.012 (WB)	
10th St / Punkin Center Rd	TWSC	LOS D	В	11.2	0.085 (NB)	
US-395 / E Punkin Center Rd	Signalized	$v/c \le 0.80^1$ $v/c \le 0.90^2$	В	14.5	0.56 (SBTR) <sup>1</sup> 0.51 (WBR) <sup>2</sup>	
US-395 / Theater Ln	Signalized	$v/c \le 0.80^1$ $v/c \le 0.90^2$	С	20.4	0.72 (NBTR) <sup>1</sup> 0.71 (EBR) <sup>2</sup>	
10th St / Church Access	TWSC	LOS D	A	0	0	

sec/veh: seconds per vehicle; TWSC: two-way stop control

*Findings*: As shown in Table 5, all studied intersections will operate within acceptable LOS in 2025 Without Project conditions during the Weekday PM peak hour.

# 3.4.3 2025 Future Conditions with Project

Table 6 describes the LOS for each intersection within the study area for the 2025 volumes with the project trips during the PM peak hours.



<sup>&</sup>lt;sup>1</sup> For ODOT Highway Approaches

<sup>&</sup>lt;sup>2</sup> For Local Road Approaches

<sup>&</sup>lt;sup>1</sup> For ODOT Highway Approaches

<sup>&</sup>lt;sup>2</sup> For Local Road Approaches

Table 6.	Estimated	1 2025 LOS	for With	<b>Project Conditions</b>
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				PM Peak Hour				
Intersection	Intersection Control	Mobility Standard	LOS	Delay (sec/veh)	v/c (lane)			
10th St / Theater Ln	TWSC	LOS D	В	10.7	0.028 (WB)			
10th St / Punkin Center Rd	TWSC	LOS D	В	12.0	0.142 (NB)			
US-395 / E Punkin Center Rd	Signalized	$v/c \le 0.80^1$ $v/c \le 0.90^2$	В	15.5	0.62 (SBL) <sup>1</sup> 0.56 (WBR) <sup>2</sup>			
US-395 / Theater Ln	Signalized	$v/c \le 0.80^{1}$ $v/c \le 0.90^{2}$	С	21.3	0.73 (NBR) <sup>1</sup> 0.72 (EBR) <sup>2</sup>			
10th St / Church Access	TWSC	LOS D	А	9.3	0.004 (WB)			
10th St / First Access	TWSC	LOS D	Α	8.7	0.01 (WB)			
Theater Ln / Access	TWSC	LOS D	Α	8.4	0.009 (SB)			
10th St / Second Access	TWSC	LOS D	Α	8.7	0.01 (WB)			
10th St / Third Access	TWSC	LOS D	Α	9.1	0.011 (WB)			
10th St / Fourth Access	TWSC	LOS D	A	9.1	0.011 (WB)			

sec/veh: seconds per vehicle; TWSC: two-way stop control

*Findings*: As shown in Table 6, all studied intersections will operate within acceptable LOS in 2025 With Project conditions during the Weekday PM peak hour.

#### 3.5 Queuing Analysis

Queuing analysis was performed to evaluate queue storage adequacy at the studied intersections. To make these determinations, the following approaches were employed:

- The 95th percentile gueues were estimated using the Trafficware's Synchro software (Version 11).
- Queue demand was rounded up to the nearest 25 feet, the average length of a queued vehicle.
- Available storage was measured from aerial photography and was rounded to the nearest 5 feet.
- Queues are reported for all controlled approach lanes. Uncontrolled lanes do not experience queuing and are not reported.

Table 7 summarize queuing analysis results for the PM peak hours. Queues that exceed the available storage are shown in bold text. Data output sheets from all queuing calculations are included in Appendix E.



<sup>&</sup>lt;sup>1</sup> For ODOT Highway Approaches

<sup>&</sup>lt;sup>2</sup> For Local Road Approaches

**Table 7. PM Peak Hour Intersection Queueing Analysis** 

		Approach		Available Storage	95th Percentile Queue (Feet)			
Intersection		and Movement		(Feet)	2025 Without Project	2025 With Project		
	EB	LTR	1000+	75	75			
4	10th Ct / Thomas I	WB	LTR	1000+	50	50		
1. 10th St / Theater Ln	Toth St / Theater Lh	NB	LTR	1000+	25	25		
		SB	LTR	1000+	-	-		
2. 10th St / Punkin Center Rd	10th Ct / Dunlin Contan	EB TR		425	-	25		
	-	WB	LT	825	25	25		
	NG	NB	LR	1000+	50	75		
3. US-395 / Punkin Cente Rd		ED	L	175	75	100		
		EB	TR	750	100	125		
		WB	L	175	75	75		
			TR	345	100	125		
	US-395 / Punkin Center	NB	L	230	75	75		
	Rd		Т	1000+	175	175		
			TR	750	175	175		
		SB	L	230	150	150		
			T	1000+	125	150		
			TR	890	150	175		
4. US-395 / Theater Ln Road		EB	L	140	100	100		
			TR	1,000+	150	150		
	WB	L	140	100	100			
		VVD	TR	400	125	125		
		NB	L	230	150	150		
	US-395 / Theater Ln Road		T	1000+	250	250		
			TR	325	250	250		
		SB	L	220	125	125		
			Т	1000+	250	275		
			TR	340	225	250		

*Findings*: As shown in Tables 7, all 95th percentile queue lengths are at or below the existing storage lengths for each lane movement. No queuing concerns were identified at the studied intersections.



#### **4 SAFETY ANALYSIS**

# 4.1 Collision Analysis

Collision data from the study area were obtained from WSDOT for the five-year period spanning from January 2018 through December 2022. This analysis assumes a collision rate less than the 1 per Million Entering Vehicle (MEV) is typically considered to be within acceptable parameters. A collision rate above 1 per MEV is formatted in bold font and is worthy of further examination. The detailed collision data can be found in Appendix F. Table 8 presents the results of the collision analysis.

Table 8. Collision Analysis for Study Area Intersections (January 2018 through December 2022)

	Collision Type							
Intersection		Left-Turn	Rear-End	Sideswipe	Object	Other	Total Collisions	Collison Rate
1. 10th St / Theater Ln	-	-	-	-	-	•	0	0
2. 10th St / Punkin Center Rd	-	-	-	-	•		0	0
3. US-395 / Punkin Center Rd	6	3	5	_	-	-	14	0.35
4. US-395 / Theater Ln Road	4	4	1	-	-	3	12	0.31

To calculate the collision rate, the PM peak hour total entering volumes from the existing TMCs were multiplied by 10 to provide an approximation of the average daily traffic (ADT). Detailed calculations of collision rates are provided in Appendix F.

As shown in table 8, the collision rate is less than 1 per MEV at all study intersections.

Findings: The 2018 through 2022 collision history at the study intersections was reviewed. All studied intersections have a collision rate below 1 per MEV.

### 4.2 Transit, Pedestrian, and Bicycle Facilities

Sidewalks currently exist partially along Theater Lane, west of 10th Street, and no sidewalks are available east of 10th Street. Sidewalks are also currently available along the west side of 10th Street, along the Loma Vista Elementary School frontage. The proposed development will construct sidewalks along the frontages of 10th Street and Theater Lane.

Bicycle lanes are not available along the studied roadways. According to the City's TSP, 10th Street, Punkin Center Road, and Theater Lane are identified to have bike lanes in future. Punkin Center Road is identified to have a shoulder bikeway while 10th street and Theater Lane are identified to have on-street bike lane.

There is no transit service nearby.



To assure accessibility compliance, all driveways, sidewalks, crosswalks, and curb ramps constructed with 10th Street subdivision should be designed and constructed according to the current Americans with Disabilities Act (ADA) guidelines.

Findings: Pedestrian transportation options are currently not available. However, it might become available with the proposed development, for future residents. Bicycle and transit facilities are not presently available; however, they may be provided in the future as the area builds out.

#### 4.3 Intersection Sight Distance

The sight distance at the proposed site accesses along 10th Street and Theater Lane were checked using aerial imagery to verify it can meet intersection sight distance (ISD) requirements and that no objects are within the ISD triangles that would block approaching drivers' views of approaching traffic. The American Association of State Highway and Transportation Officials (AASHTO) tables 9-6 and 9-8, Design Intersection Sight Distance Left/Right Turn from Stop (see references), were used in determining required ISD.

Findings: Access intersections on 10<sup>th</sup> Street should have at least 430 feet of sight distance looking to the north for a right turn and 500 feet of sight distance looking to the south for a left turn based on the 45-mph posted speed on 10th Street. The relatively flat terrain and clear view past 500 feet in both directions suggests all proposed access intersections have adequate sight distance.

Access intersections on Theater Lane should have at least 240 feet of sight distance looking to the north for a right turn and 280 feet of sight distance looking to the south for a left turn based on the 25-mph posted speed on Theater Lane. The relatively flat terrain and clear view past 280 feet in both directions suggests all proposed access intersections have adequate sight distance.

#### 4.4 On-Site Parking

According to the Code of Hermiston (See References), Chapter 157.175, the Victory Lighthouse Church is required to have one space per four seats or eight feet of bench length in the main auditorium. The development is required to provide adequate additional parking spaces as needed by the final outlay of the church expansion.

Additionally, the proposed site plan should meet the minimum requirement for accessible parking spaces per the Americans with Disabilities Act (ADA) parking requirements from ORS 447.233 based on the number of proposed parking spaces.

Recommendations: The Project should meet the minimum parking requirements as well as the requirements for accessible parking spaces for the proposed church expansion.



#### **5 STUDY FINDINGS**

The findings of this TIA are listed below.

#### 5.1 Trip Generation

The Project is anticipated to generate 1,206 vehicle trips during a typical weekday and 116 vehicle trips during the PM peak hour.

## 5.2 Level of Service

As shown in Table 4, all studied intersections currently operate at an acceptable LOS in the 2024 Existing conditions during the Weekday PM peak hours.

As shown in Table 5, all studied intersections will operate within acceptable LOS in 2025 Without Project conditions during the Weekday PM peak hour.

As shown in Table 6, all studied intersections will operate within acceptable LOS in 2025 With Project conditions during the Weekday PM peak hour.

#### 5.3 Queuing Analysis

No significant queue concerns were identified at the studied intersections due to this project.

#### 5.4 Collision Analysis

The 2018 through 2022 collision history at the study intersections was reviewed. All studied intersections have a collision rate below 1 per MEV.

#### 5.5 Transit, Pedestrian, and Bicycle Facilities

Pedestrian transportation options are currently not available. However, it might become available with the proposed development, for future residents. Bicycle and transit facilities are not presently available; however, they may be provided in the future as the area builds out.

#### 5.6 Intersection Sight Distance

Access intersections on 10<sup>th</sup> Street should have at least 430 feet of sight distance looking to the north for a right turn and 500 feet of sight distance looking to the south for a left turn based on the 45-mph posted speed on 10th Street. The relatively flat terrain and clear view past 500 feet in both directions suggests all proposed access intersections have adequate sight distance.

Access intersections on Theater Lane should have at least 240 feet of sight distance looking to the north for a right turn and 280 feet of sight distance looking to the south for a left turn based on the 25-mph posted speed on Theater Lane. The relatively flat terrain and clear view past 280 feet in both directions suggests all proposed access intersections have adequate sight distance.



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# **6 RECOMMENDATIONS**

The recommendations of this TIA are listed below.

# 6.1 On-Site Parking

The Project should meet the minimum parking requirements as well as the requirements for accessible parking spaces for the proposed church expansion.



#### 7 REFERENCES

AASHTO (American Association of State Highway and Transportation Officials). (2018). A Policy on the Geometric Design of Highways and Streets, 7th Edition.

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