

Transportation Impact Assessment (TIA)

Development & Submission Guide

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Engineering Services
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1.0 INTRODUCTION

A Traffic Impact Assessment (TIA) study is a valuable tool for analysing the transportation impacts a particular plan/development/subdivision will have on the existing roadway network system. A TIA study identifies the need for any improvements and mitigating measures to the adjacent and nearby roadway system to maintain a satisfactory Level of Service (LOS) and safety of the roadway network in the vicinity of the proposed development/subdivision.

Parkland County will accept TIA studies submitted in one of these two formats:

- Transportation Memo, or
- Transportation Impact Assessment (TIA) Report.

The format is determined depending on the level of analysis required. Early consultation with Parkland County administration is required to determine the appropriate format. Format requirements are outlined in Section 2.1.

Note that a TIA study is independent of other studies that may be required, such as geometric analysis or geotechnical studies. If combined into one report, the analysis and conclusions from each report should be outlined in separate sections. Developments that do not require a

1.1 Purpose

Parkland County Engineering Services (Engineering Services) has developed these guidelines to:

- Identify when a TIA study is required (warrants);
- Differentiate between Transportation Memo and a TIA Report;
- Detail the required scope based on the level of development;
- Provide a standardized approach and methodology for TIA studies;
- Ensure consistency and uniformity of the TIA studies;
- Assist consultants in preparing memos and reports consistent with the accepted standards of Engineering Services; and
- Reduce confusion, delay and TIA related costs in processing applications.

Please see Appendix A for a suggested TIA checklist

1.2 TIA Study Objectives

The primary objectives of a TIA study are to assess the transportation impacts of a proposed development/subdivision, identify the need for any improvements to the affected roadway system to provide satisfactory Levels of Service (LoS), and address safety issues.

The TIA study also should address relevant transportation issues associated with a proposed development/subdivision that may be of concern to neighboring residents, businesses & property owners, identify access management issues, such as appropriate location, spacing, and design of the access(es) for the proposed development/subdivision and evaluate the internal circulation of the proposed development/subdivision to/from the adjacent and nearby municipal roadway system to provide safe and efficient internal traffic flow and access(es).

1.3 General Requirements

A TIA study shall be prepared by or under the direction of a registered professional engineer in Alberta with training and experience in traffic engineering and transportation planning. The report must be dated and signed by the same registered Professional Engineer in Alberta with appropriate designation recognized by APEGA.

The engineer is responsible for confirming the appropriate study scope and report format with Engineering Services prior to commencing work on the report.

It is also recommended that the engineer share a DRAFT version of the report with Parkland County following data collection to confirm the suitability of the study scope prior to commencing analytical work on the data.

The engineering consultant may request a meeting with Engineering Services to finalize details on the study scope. The participants at the meeting shall identify and agree upon the issues and needs prior to the preparation of the TIA. It is also important that the consultant submit meeting minutes or a Memorandum of Understanding (MOU) detailing the scope, assumptions and methodologies agreed upon for the TIA study in question.

SCOPE REVIEW AND APPROVAL
ENGINEERING SERVICES PRIOR
TO ANALYTICAL WORK SAVES
TIME AND MONEY

Parkland County will not accept TIAs with proposed speed limit reductions on the roadway unless Engineering Services agreed to the condition prior to completing the TIA. Signalized intersections are generally not desirable in rural areas and is considered an absolute last resort for improving an at-grade intersection. The analysis should consider all possible alternatives prior to recommending speed limit reductions and/or signals.

2.0 TIA STUDY EVALUATION CRITERIA

2.1 Types of TIA Reports

TIA Studies may be presented in one of two formats: a Transportation Memo or Transportation Impact Assessment (TIA) Report. The reporting format selected is based on the anticipated traffic impact and area of influence of the proposed development. The consulting engineer must confirm the reporting format with Engineering Services prior to commencing work on the project. In some cases, a Memo is completed to verify a full Report is required.

2.1.1 Transportation Memo

A Transportation Memo is a brief provided in a letter format. It features limited data collection and analysis. This may be used for smaller developments where traffic impacts and any recommended improvements can be quickly identified, as detailed in the warrants section.

The scope of a Transportation Memo is typically limited to traffic impacts in the immediate area of the development (i.e., approach location) and focus on short term/immediate impacts of development.

The Memo format may also be used to indicate compliance with a much larger report completed for a previous project to confirm no change to prior assumptions no further analysis is required. This is typically applied on larger scale – single site development initiatives where recent Transportation Impact (TIA) Reports exist.

2.1.2 Transportation Impact Assessment (TIA) Report

A Transportation Impact Assessment (TIA) Report is a comprehensive report prepared for larger developments, area structure plans, conceptual schemes, subdivisions, or complex locations that require detailed analysis.

The scope of a TIA Report will be determined by the development type, its area of influence, or its impact in a particular area.

Regardless of Parkland County's position, Alberta Transportation may require a TIA Report for projects within 800m of a Provincial Highway or for any project that potentially impacts a Provincial Highway.

2.1.3 Statement of Operations

A Statement of Operations is a letter prepared by the applicant and does not include an engineering review. The letter describes how a proposed development is expected to operate. Details may include the number of staff and customer vehicle trips, expected parking needs, operating hours, and peak operating hours (as applicable).

A Statement of Operations may be provided with small and unique developments to provide clarity on how the proposed development will function. Engineering Services can elect to accept the Statement of Operations or request a formal TIA Study (Transportation Memo or full TIA Report).

2.2 TIA Study Warrants

A TIA study (Report or Memo) is required with ALL area structure plans, conceptual schemes, multi-lot subdivisions and other similar planning documents, as well as whenever a single site development/subdivision proposal is anticipated to have a significant impact on traffic operations and on other components of the transportation system.

The scope and format of the TIA study may vary depending on the magnitude of the potential impact on the roadway system due to the proposed plan/development/subdivision. More details are provided below:

Typical TIA Study Warrants

<i>Evaluation Criteria</i>	<i>TIA Report*</i>	<i>Traffic Memo</i>	<i>Statement of Ops.</i>
<i>As requested by Alberta Transportation (within 800m of provincial highway or significant transportation impact)</i>	☒	☒	--
<i>Area Structure Plan submission</i>	☒	--	--
<i>Conceptual Scheme</i>	☒	☒	--
<i>Multi-lot subdivision</i>	☒	☒	--
<i>Single site developments with significant transportation impact</i>	☒	☒	--
<i>When the proposed development has the potential to impact any roadway or intersection within 100m of a property containing a school, library, or public amenity where children/youth may frequently be present.</i>	☒	☒	--
<i>When the proposed development may be expected to have significant political or community interest</i>	☒	☒	☒
<i>Small, but unique developments that require a description of business operations</i>	--	--	☒
<i>Proposed development (all proposed phases) generates more than 100 total trips (inbound + outbound trips) during any one hour of an average weekday, or during any one hour of a design weekend</i>	☒	--	--
<i>When two or more proposed developments will generate 100 or more additional peak direction auto trips to or from the site during the adjacent roadway's peak hour</i>	☒	--	--
<i>When the proposed development (regardless of number of trips) is anticipated by Engineering Services to significantly reduce the capacity of surrounding roadways or intersections to an unacceptable level during any hour on a design day selected for analysis purposes</i>	☒	--	--
<i>When the proposed development (regardless of number of trips) is anticipated by Engineering Services to create unacceptable adverse operational or safety impact on the road network, such as, but not limited to, inadequate sight distances at access points; substandard access spacing as it relates to intersections and/or accesses; lack of existing turn lane(s) on the adjacent roadway at the proposed access point(s).</i>	☒	--	--

**Engineering Services may accept a Traffic Memo in place of a TIA Report in situations where the anticipated impact is minor/negligible, or the submission is a minor change to a previous submission that has an existing TIA Report*

2.3 Exemption of TIA study

The Manager of Land Development Engineering may provide an exemption for a TIA study. Exemptions for a proposed development requires consultation with Engineering Services. A TIA study may not be necessary when, in the opinion of the Manager of Land Development Engineering, an insignificant traffic impact to roadway facilities due to a proposed development/subdivision can clearly be anticipated.

As mentioned above, the pre-consultation process is also the time to determine if a Memo or a Report is required. It will be more common to be directed to produce a Memo, than it will be to fully exempt the process.

2.4 Updating an Existing Traffic Impact Study

A Traffic impact study for a proposed development/subdivision is usually valid for a period not longer than two years. Any development/subdivision that does not commence within two years may require an updated TIA study. Major changes within the study area or land uses may prompt the need for an updated impact analysis.

All documents that are older than two years since completion, or that have major changes within the two years, will be reviewed by the Manager of Land Development Engineering. The Manager of Land Development Engineering, in their own opinion, will have authority to accept the document in current state or will provide direction regarding an update.

3.0 RECOMMENDED STUDY FORMAT

By following the study format presented below, it is anticipated that Engineering Services can achieve efficiencies in the review, with the added benefit of ensuring consistency among various studies. Compliance with these recommendations will result in reductions of review time required, which in turn should greatly enhance the overall efficiency of reviewing development/subdivision applications.

The full TIA report will cover all bullets below and will follow through the steps to provide a recommendation of improvements or operations to be expected. The Memo format will identify basic traffic information to justify how the development will proceed and will outline how the proposed development aligns with a previously completed TIA report OR how the proposed development is recommended as having a minor or negligible impact on the surrounding road network.

A Memo may be completed and accepted by Engineering Services, with a follow up requirement to provide additional input in the format of a TIA report.

3.1 Background Information

The purpose of background information is to provide an understanding of the proposed development/subdivision and its location with respect to the road network. Background information shall include, but is not limited to:

- Development/Subdivision name and/or developer
- Development/Subdivision location
- Type of development/subdivision
- Size of development/subdivision
- Staging or Phasing (by year anticipated)
- All municipal and provincial roadways that will likely be affected by the traffic volumes generated by the proposed development/subdivision
- All site access points, major intersections and roadway sections within a 300m radius adjacent to the site. However, the Engineering Services reserves the right to establish the study intersections and roadway network as may be deemed necessary.
- Proximity to nearest provincial highways. Are they within 800m?
- Study Area Key Map
- Site Plan

3.2 Existing Infrastructure & Conditions

Prior to projecting and analyzing traffic, it is necessary to identify the existing infrastructure and conditions within the study area. It is recommended that a site visit/ inspection be conducted as part of any TIA.

3.2.1 Existing roadway conditions shall include, but not limited to, the following:

- Pavement width
- Pavement markings
- Right-of-way width
- Vertical grades on Highway
- Horizontal alignment of Highway (i.e. curve radius)
- Design and/or posted speed limit
- Locations of speed limit changes
- Existing/ proposed accesses in vicinity
- Existing illumination in vicinity
- Traffic control type (i.e. two-way or all-way stop control, etc.)
- Traffic operation signage (i.e. no left-turns, no parking)

3.2.2 Existing intersection conditions (if applicable) shall include, but not limited to, the following:

- Intersection configuration (include scaled plan)
- Vertical grades of local/ intersecting road
- Intersection sight distance
- Stopping sight distance
- Signal timings (if existing)
- Major developments/subdivisions currently using intersection

If vertical grades on the roadway, or at the existing/ proposed intersection location are a concern (i.e. insufficient intersection sight distances), it is recommended that alternate access or relocation of the proposed access be considered, and discussed with Engineering Services, prior to further analyses.

3.2.3 Existing/Background Traffic Conditions shall include, but not limited to the following:

- Turning Movement Counts (Diagram &/or Table) – AADT

- Turning Movement Count (Diagram &/or Table) – AM Peak
- Turning Movement Count (Diagram &/or Table) – PM Peak
- Existing AADT
- Historical Traffic Growth Rate
- 5-yr Traffic Growth Rate at roadway/intersection
- 10-yr Traffic Growth Rate at roadway/intersection
- Annual Traffic Growth Rate at roadway/intersection
- Vehicle composition (% vehicle type) on Highway/Intersection

3.2.4 Traffic Counts

Prior to field traffic counts, discussion between Engineering Services and the consultant is recommended to determine the level of detail (e.g., traffic count locations, period, intervals, pedestrian counts, vehicle classification counts, etc.) required at each traffic count site. All roadway facilities within the boundaries of the TIA should be considered.

Parkland County has a traffic count program and may be able to provide recent count information upon request

Common practices for counting vehicular traffic shall include, but not limited to the following:

- Vehicle counts should be conducted on Tuesdays, Wednesdays, or Thursdays during weeks not containing a holiday.
- Counts should not be conducted during times of detours, accidents or inclement weather that could affect traffic volumes.
- Traffic counts shall be broken into 15-minute intervals over a long enough period to establish the peak hours.
- Typically 3-hour peak flow counts would be conducted once in the morning (AM Peak), once at noon (noon Peak, 2-hour

peak flow counts), and once in the evening (PM Peak). Duration of traffic counts should be identified in consultation with Engineering Services.

Some destination areas experience peaks during weekends or off-peak hours. Confirm Requirements with Engineering Services

- Seasonal and weekend variations in traffic should also be considered to factor the counts.

3.3 Traffic Projections

The following is a sample of how to lay out traffic projections in a logical manner, which will assist Engineering Services in the review process. This is not intended to represent all TIAs, and depending on the complexity of the study, may require more or less traffic projections. The use of turning movement diagrams in the chronological manner suggested below is an effective way of conveying the necessary traffic data.

Current State Analysis

Existing/ Background Traffic

AM Peak

PM Peak

Build Year

Projected Background Traffic

AM Peak

PM Peak

Projected Development/Subdivision Traffic

AM Peak (Site Generated, Pass-by/Internal, & Total)

PM Peak (Site Generated, Pass-by/Internal, & Total)

Combined (Existing/Background and Development) Traffic

AM Peak

PM Peak

Staging Years

Projected Background Traffic

AM Peak

PM Peak

Projected Development/Subdivision Traffic

AM Peak (Site Generated, Pass-by/Internal, & Total)

PM Peak (Site Generated, Pass-by/Internal, & Total)

Combined (Existing/Background and Development) Traffic

AM Peak

PM Peak

20-Year Horizon

Projected Background Traffic

AM Peak

PM Peak

Projected Development/Subdivision Traffic

AM Peak (Site Generated, Pass-by/Internal, & Total)

PM Peak (Site Generated, Pass-by/Internal, & Total)

Combined (Existing/Background and Development) Traffic

AM Peak

PM Peak

3.3.1 Existing/ Background Traffic

Although not a traffic projection, it is important to establish the background traffic volumes and turning movements within the study area, before projecting background traffic into the future horizons.

3.3.2 Projected Background Traffic

Traffic projections shall be prepared for the build-year, or such other years as may be appropriate due to development/subdivision staging. In all cases, the background traffic should be projected to the 20-year horizon, as this represents the life of most pavement structures. These traffic projections should be based upon the established annual traffic growth rate for the study area. In cases with erratic and/or unusual growth rates in recent years, consideration should be given to using the provincial average growth rate (currently 2.5 %/year) for projections beyond the 5-year horizon. All traffic projections should be based on non-compounded growth.

3.3.3 Projected Development/Subdivision Traffic

Development/subdivision traffic projections shall be prepared for the build-year, or such other years as may be appropriate due to

development/subdivision staging. In all cases, the development/subdivision traffic should be projected to the 20-year horizon. For each projection year, a turning movement diagram and/or table should be included illustrating the projected development/subdivision traffic by turning movement.

In most cases, the trip generation for the proposed development/subdivision should be based on the current Institute of Transportation Engineers (ITE) trip generation rates, which can be found in the publication entitled "Trip Generation". However, in some cases the data provided in the "Trip Generation" manual does not necessarily represent the situation present in rural Alberta. For land uses not listed in this source or when the consultant believes these rates are not representative, Engineering Services may accept alternative evidence of representative rates. In some areas, such as the Acheson Industrial Area, special site-specific rates have been calculated to best represent typical development scenarios for the area.

Did you know that Acheson has a special site-specific trip generation rate?

Documentation and rationale will also be required for trip distribution including directional traffic splits, intersectional traffic splits, pass-by trips, and internal trips. This information should be supplied in a graphical and/or tabular format and included in the projected development/subdivision traffic section.

3.3.4 Existing/ Background and Development/Subdivision Traffic

Once the development/subdivision traffic has been identified, the background traffic and development/subdivision traffic should be combined for the determined peak periods and projection years. This information should be supplied in a graphical and/or tabular format.

The peak hour traffic analysis periods shall be identified for the proposed development/subdivision, the roadway, and the resultant peak-hour condition. It shall show the combination of site generated and existing/background traffic, which causes the critical peak period(s). The peak hour will generally correlate to the AM and PM weekday peak periods on the roadway. In some cases, depending on

development/subdivision characteristics, analysis of other peak periods such as Saturday afternoon or evening may be necessary.

Stop Here and Check in with Engineering Services

Do not advance forward into the Analysis stage of TIA development without confirming the assumptions are supported: Background Traffic, Trip Generation Rates, Trip Distribution, Trip Assignment/Splits, Pass-By Trips, Internal Trips, etc.

All work completed beyond this point is wasted effort if assumptions are not supported

3.4 Analysis

3.4.1 Capacity Analysis

The TIA shall include a capacity analysis for the various traffic scenarios identified in the document. The most current edition of the “Highway Capacity Manual” (HCM), is the standard for capacity analysis. Capacity worksheets must be provided as an appendix to the TIA. Engineering Services accepts calculations performed using computer software based on the HCM, with the preference being McTrans software (Synchro/Simtraffic).

In cases where the proposed development/subdivision utilizes an existing intersection, it is necessary to first understand how the existing roadway and/or intersection operates without the development/subdivision. Where applicable, the TIA should include capacity analysis for the existing intersections in question.

Impacts should be evaluated with development/subdivision for the build year, staging years, and 20-year horizon. Once the recommended improvements are identified the analysis should be conducted including improvements in the appropriate horizon year in order to ensure the improvements will improve intersection operations.

The TIA must provide capacity analysis results in a tabular form for all study intersections, study peak hour periods, and study horizon years

listing the Level of Service (LOS), delay, queues, and v/c ratio for individual directional movement for the above-mentioned scenarios. The most current edition of the “Highway Capacity Manual” (HCM), is to be used for the parameters of LOS rating criteria.

3.4.2 Signalization Analysis

Roadways in rural agricultural and country residential areas are expected to operate at an acceptable level of service without signalization. If the capacity analysis indicates otherwise, the development concept should be reviewed and revised to improve the level of service without signalization.

Signalization warrant analysis may be required for intersections between provincial highways, major employment areas (urban industrial) and growth hamlets. When required, the analysis shall be completed as outlined in the Alberta Transportation TIA guidelines (i.e., Section 3.5 in the February 2021 revision).

3.4.3 Illumination Warrant Analysis

Lighting warrants shall be based on the most recent Transportation Association of Canada (TAC) guidelines: “Illumination of Isolated Rural Intersections” and “Guide for the Design of Roadway Lighting”.

Reports intended for Alberta Transportation review should also meet Design Bulletin #35: “New Guidelines for the Design of Roadway Lighting”.

3.4.4 Operational Analysis

The Engineering Consultant should summarize and highlight the anticipated operational effectiveness of the existing and proposed network. Include volume to capacity analysis, delays and queue, Level of Service (LOS) for movements that warrant attention as well as overall operation LOS of the network and key intersections.

This is the place to summarize how the network currently functions and how it will change following the stages of proposed development.

3.4.5 Recommended Network Improvements

The Engineering Consultant should provide their summary of findings and proposed resolutions, network improvements and infrastructure plan necessary to address the identified concerns from the operational analysis.

This is the place to highlight what network or intersection improvements are necessary to maintain an acceptable Level of Service (LOS) for the transportation network.

It is important to highlight all improvements necessary without quantification or assignment of responsibility. This section should include a full list of improvements, unbiased and unassigned, to ensure the road network is properly considered.

3.5 Summary of Conclusions and Recommendations

This section of the report will summarize key assumptions made during development of the TIA as well as outputs from the analysis portion of the work. This report shall include a summary of which network improvements are necessary to maintain the current and future network within desirable operational standards and will formulate an opinion on which improvements are to be assigned to the proposed development, in the opinion of the consulting engineer.

The summary must outline immediate improvements and may include near-term and future-term improvements should there be sufficient reasoning to defer the identified improvements. Any delayed improvements based on timing or construction staging should be outlined with clear recommendations on thresholds or “trigger” points for the improvements identified.

Final results are expected to be outlined in an independent professional recommendation for development and growth management of the transportation network within Parkland County. Parkland County recognizes

there is a client relationship to manage however, the conclusions and recommendations must be separate from that relationship. The expectation is that this is a technical document with a professional recommendation of what should happen on the transportation network, not a business case analysis of cost avoidance for a particular improvement. This technical report reviews the network without bias as to “who pays” and ensures that we have a quality transportation system to meet anticipated demand.

The business case analysis for suitable improvements that are connected to development will occur during Subdivision and Development Permit review process and ultimately, the associated Development Agreement that contractually assigns the improvements to the development activity.

4.0 DELIVERABLES

The final TIA reports, complete with all supporting documentation may be submitted in the one of the following formats:

- One (1) digital copy electronically sealed by a Professional Engineer registered with APEGA licensed to practice in the Province of Alberta
- One (1) physical copy sealed by a Professional Engineer registered with APEGA licensed to practice in the Province of Alberta, and one digital copy in PDF format
- Three (3) physical copies sealed by a Professional Engineer registered with APEGA licensed to practice in the Province of Alberta.

During the review phases of the work electronic submissions in PDF format are recommended. These allow for quicker review and simpler file management.

APPENDIX I: CHECK LIST FOR A COMPLETE TIA ReportBACKGROUND INFORMATION**Proposed Development/Subdivision**

- ☐ Development/Subdivision name and/or developer
- ☐ Development/Subdivision location
- ☐ Type of development/Subdivision
- ☐ Size of development/subdivision
- ☐ Staging (by year anticipated) Road network
- ☐ Road Names
- ☐ Road Classification Study Area
- ☐ Key Map
- ☐ Site Plan

EXISTING INFRASTRUCTURE AND CONDITIONS**Existing Road Conditions**

- ☐ Pavement width
- ☐ Pavement lane markings
- ☐ Right-of-Way width
- ☐ Vertical grades
- ☐ Horizontal alignment
- ☐ Design and/or Posted Speed Limits
- ☐ Locations of speed limit changes
- ☐ Existing / proposed accesses in vicinity
- ☐ Existing illumination in vicinity
- ☐ Traffic control type
- ☐ Traffic operations signage
- Existing Intersection Conditions**
- ☐ Intersection configuration
- ☐ Vertical grades of intersection roadway
- ☐ Intersection sight distance
- ☐ Stopping sight distance

- ☐ Existing signal timings
- ☐ Major developments/subdivisions currently using intersection

Existing Traffic Conditions

- ☐ Turning Movement Counts (Diagram &/or Table) – AADT
- ☐ Turning Movement Counts (Diagram &/or Table) – AADT
- ☐ Turning Movement Count (Diagram &/or Table) – PM Peak
- ☐ Existing AADT on Highway
- ☐ Historical Traffic Growth Rate on Highway
- ☐ 5-year Traffic Growth Rate at Highway/ Intersection
- ☐ 10-year Traffic Growth Rate at Highway/ Intersection
- ☐ Annual Traffic Growth Rate at Highway/ Intersection
- ☐ Vehicle composition (% vehicle type) on Highway/ Intersection

DEVELOPMENT BASED TRAFFIC**Incremental Traffic from development**

- ☐ Trip Generation Rate
- ☐ Trip Distribution/ Assignment
- ☐ Traffic Split
- ☐ Pass-By Trips
- ☐ Internal Trips
- ☐ Build-Year Trip Growth totals at site
- ☐ Phased Development Trip Growth (all scenarios)
- ☐ Ultimate Trip Growth totals.

PRE-ANALYSIS CHECK IN**Ensure Support prior to Analysis**

- ☐ Engineering Services to confirm direction and support for assumptions up to this point

ANALYSIS**Analysis of Existing, Development and Total Traffic from development**

- ☐ Complete network analysis of Current State of Existing Traffic
- ☐ Complete network analysis of Background/Development Traffic
- ☐ Complete network analysis of Total Traffic (existing + background)
- ☐ Summarize outputs of Synchro (or similar) analysis:
 - Level of Service,
 - Delays,
 - v/c ratios, and
 - Queues
- ☐ Highlight areas that do not meet minimum level of service or operational standards across lifecycle of development
- ☐ Develop scenario of improvements to create appropriate system operations across lifecycle of development

- ☐ Establish list of improvements to bring network into compliance with appropriate system operations
- ☐ Analyze network with recommended improvements

RECOMMENDATIONS**Summarize findings and establish recommendations for network improvements (if any)**

- ☐ Develop Summary of proposed improvements to maintain equal or better network operations.
- ☐ Confirm which improvements will be responsibility of development
- ☐ Rationalize any improvements considered outside developer's responsibility
- ☐ Submit to Engineering Services for review and approval

APPENDIX II: LEVEL OF SERVICE GUIDANCE

In the table below, Parkland County has outlined typical values for Level of Service, V/C ratios, Mode Splits, and other common considerations. All are site and development specific but as a starting point of discussion, these are the typical scenarios to be applied.

Type of Area	Level of Service Target (LOS)	Volume to Capacity Ratio (v/c)	Pedestrian Crossing Expected	Vehicle Type Split (Car/Truck) **
Industrial Area*	C	0.9	yes	80/20
Priority Growth Hamlet (Residential)	B	0.8	yes	100/0
Priority Growth Hamlet (Industrial/Commercial)	B	0.8	Yes	80/20
Hamlet (all others)	A	0.7	yes	100/0
Multi-Lot Subdivision	A	0.7	no	100/0
Rural Area (within Growth areas)	A	0.7	no	90/10
Rural Area (outside Growth areas)	A	0.6	no	80/20

* LoS within Industrial Areas can be D/E – context sensitive in select areas/ movements

** consideration for mode split changes on main roads leading to and through areas; must also consider agricultural areas and aggregate pit operations on site-by-site basis

APPENDIX III: SAMPLE OF APPROVED TRANSPORTATION MEMO

Add an Example

APPENDIX IV: SAMPLE OF APPROVED TRANSPORTATION IMPACT ASSESSMENT
REPORT

Add an Example (maybe not embedded in document but as an attachment)