



Punkeydoodle's Corners Intersection Control Feasibility Study

Public Information Centre

5 October 2023 (6:00pm – 8:00pm)
Tavistock & District Memorial Hall



Consultant / Project Manager



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Consulting Engineer & Associate

Professional Traffic Operations Engineer

RC Spencer Associates Inc.



Intersection Control Feasibility Study

Introduction

Traffic Operations Metrics

- traffic volumes;
- levels of service;
- control delay;
- queuing.

Traffic Safety Metrics

- collisions;
- speeds;
- sight lines;
- illumination.



Intersection Control Feasibility Study

Introduction

Our findings will guide decision-makers in evaluating the:

- Industry best practices for design of roadways and intersections;
- Hierarchy of area roadway classifications;
- Anticipated growth and increased demand on area roadways and intersections;
- Geometric layout of recommended short-term and long-term improvements;
- Build-out of recommended intersection improvements (or potential closures);
- Coordination and relocation of potentially conflicting utilities;
- Lighting requirements for short-term and long-term improvements;
- Land acquisition requirements (to accommodate long-term improvements);
- Cost and budgeting of intersection / roadway improvements.



Intersection Control Feasibility Study

Introduction

Consultation with Project Stakeholders

- area road authorities;
- area residents;
- community associations;
- the public;
- agency partners.



Intersection Control
Feasibility Study

Background Information





Intersection Control Feasibility Study



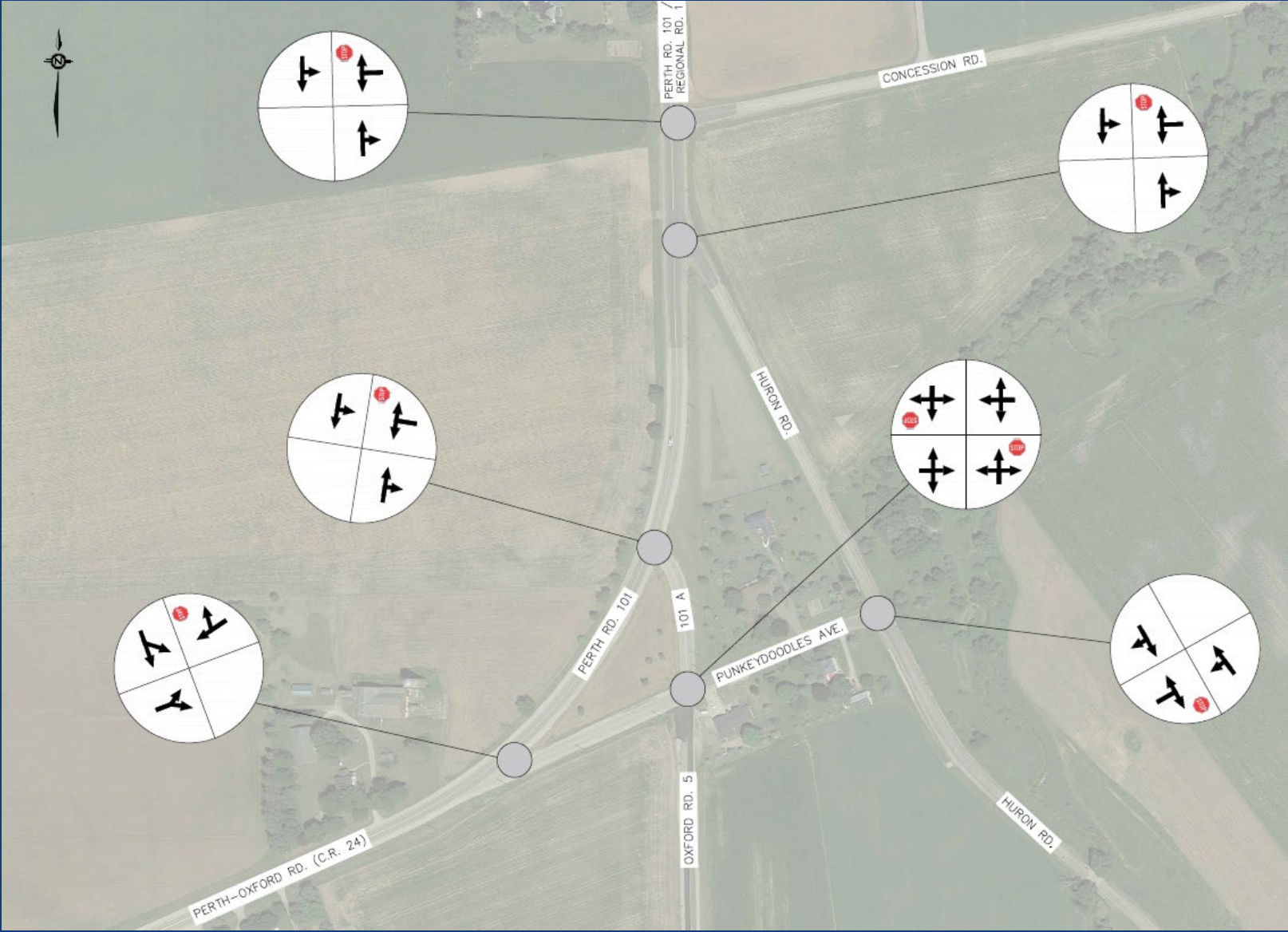
- Intersection**
- ① Punkeydoodles Avenue & Oxford Road 5
 - ② Perth Road 101 & Road 101A
 - ③ Perth-Oxford Road/Oxford Road 24 & Perth Road 101
 - ④ Perth Road 101 & Huron Road
 - ⑤ Punkeydoodles Avenue & Huron Road
 - ⑥ Perth Road 101/Regional Rd 1 & Concession Road



Flown March 7th-May 20, 2020. Pixel Resolution: 16cm. SWOOP 2020



Intersection Control Feasibility Study



Intersection Control Feasibility Study

Traffic Modelling Methodology

Level of Service	Average Control Delay (sec/veh)
A	0 - 10
B	>10 - 15
C	>15 - 25
D	>25 - 35
E	>35 - 50
F	>50



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Collision Data (2015 – 2022)

At / near:	Intersection Name	# Collisions
Intersection 1	Punkeydoodles Avenue at Oxford Road 5	16*
Intersection 2	Perth Road 101 at Road 101A	5
Intersection 3	Perth-Oxford Road 24 at Perth Road 101	6
Intersection 4	Perth Road 101 at Huron Road	2
Intersection 5	Punkeydoodles Avenue at Huron Road	1
Intersection 6	Regional Road 1 at Concession Road	4

* Includes one fatality.

Note: The above collision data summary considers all provided collision reports from 2015 to 2022 (inclusive).



Intersection Control Feasibility Study

Speed Data

Reported Speed Statistics (19 – 21 May 2023)

- average speed = 91 km/h
- approximately 80% of the vehicles exceeded the posted limit
- approximately 15% of the vehicles exceeded 105 km/h

→ this metric is called the “85th percentile speed”

Note: The 85th percentile speed is the metric used by engineers to understand the traffic operations at which most motorists perceive their speed to be “safe”.



Intersection Control Feasibility Study



Speed Data

Transportation Association of Canada (TAC) Speed Limit Recommendations

- **Oxford Road 24 / Perth Road 101** → (Line 33 to Concession Rd.)
 - Road Characteristics = 70 km/h
 - Policy = 80 km/h
- **Oxford Road 5 (Road 101A)** → (Perth Rd. 101 to Bender Rd.)
 - Road Characteristics = 70 km/h
 - Policy = 80 km/h
- **Huron Road (Township Road 11)** → (Perth Rd. 101 to Bender Rd.)
 - Road Characteristics = 60 km/h
 - Policy = 80 km/h



Intersection Control Feasibility Study



At **Punkeydoodles Avenue at Oxford Road 5**, there is sufficient sight distance.

At **Perth Road 101 at Road 101A**, there is sufficient sight distance, but due to the curve of the road, overgrowth on the west side obstructs visibility past the intersection of Oxford Road 24 at Perth Road 101.

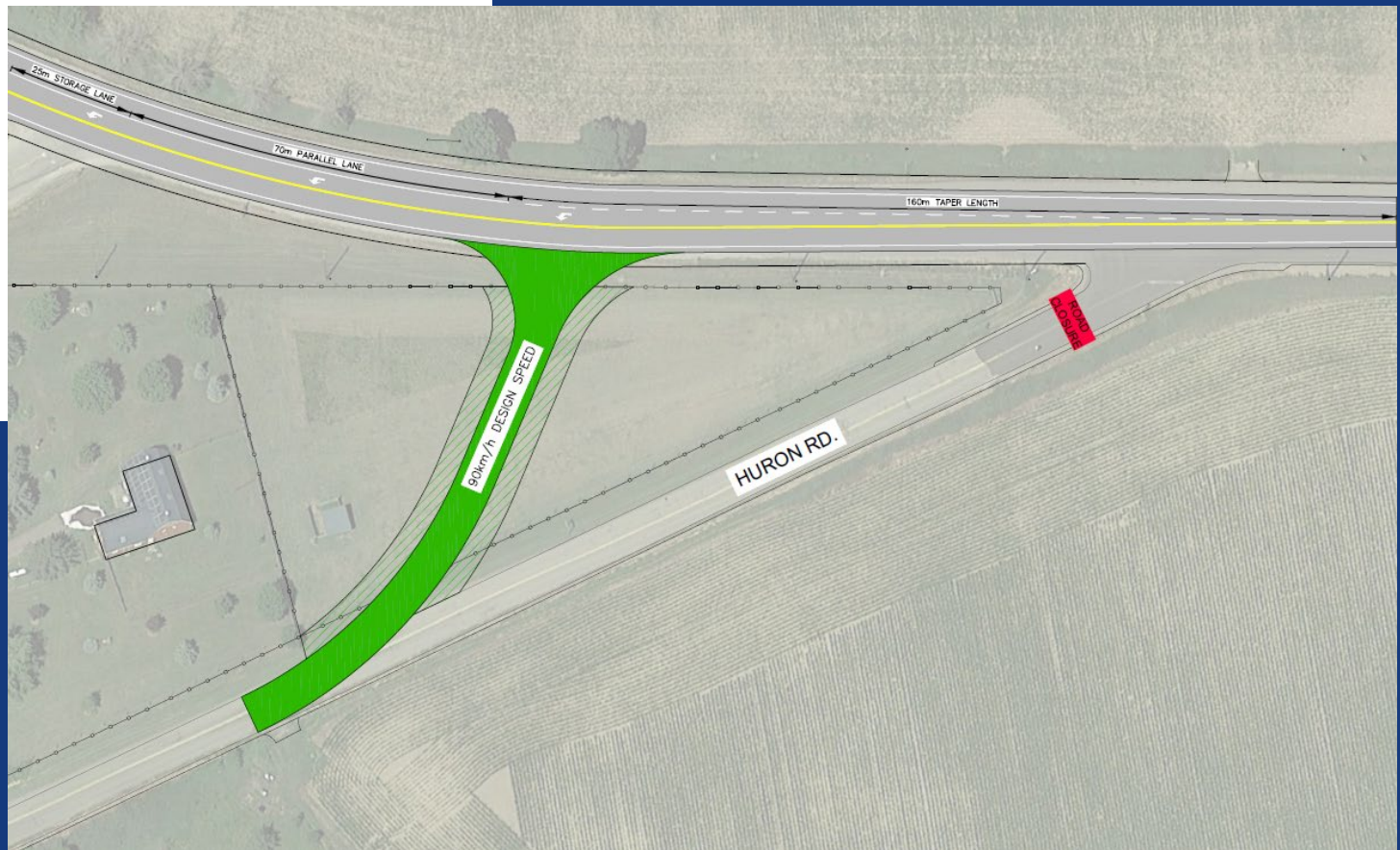
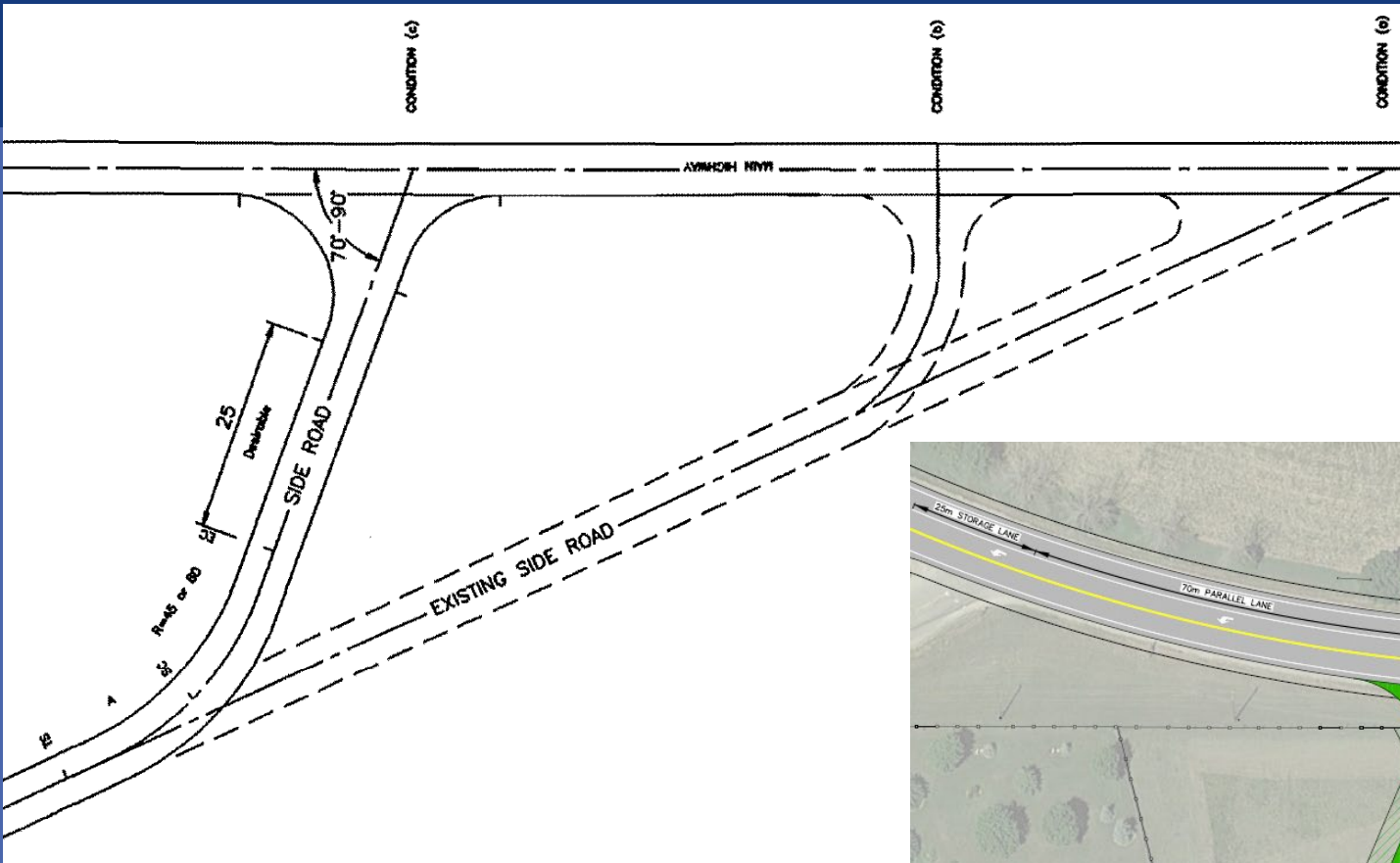
At **Perth-Oxford Road / Oxford Road 24 at Perth Road 101**, there is sufficient sight distance, but due to the curve of the road, overgrowth on the west side obstructs visibility past the intersection of Perth Road 101 at Road 101A.

At **Perth Road 101 at Huron Road**, there is sufficient sight distance, but due to the curve of the road, overgrowth on the west side obstructs visibility past the intersection of Perth Road 101 at Road 101A; there is also a change in elevation north of Concession Road that affects visibility to the north.

At **Punkeydoodles Avenue at Huron Road**, there is sufficient sight distance.







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Geometric & Traffic Control Improvement Recommendations

At **Punkeydoodles Avenue at Oxford Road 5**, Punkeydoodles Avenue becomes a tee (with the closure of Perth-Oxford Road / Oxford Road 24 at Perth Road 101); all-way stop control is not warranted within the 20-year horizon, so the minor street (Punkeydoodles Avenue) should be stop-controlled, with Oxford Road 5 changed to “free flow”.

At **Perth Road 101 at Road 101A**, the intersection should be realigned to improve sight lines; all-way stop control is not warranted within the 20-year horizon, nor is traffic signal control, but a “southbound” left turn lane and a “northbound” right turn lane are warranted to improve traffic flows and to better accommodate decelerating traffic.

At **Perth Road 101 at Huron Road**, the volumes are too low to justify exploration of any geometric and / or traffic control improvements.

Based on the existing sight lines and deficient geometric conditions, it is recommended that Intersection 3 and Intersection 4 be closed, along with the respective **Perth-Oxford Road** and **Huron Road** right-of-ways.



Intersection Control Feasibility Study

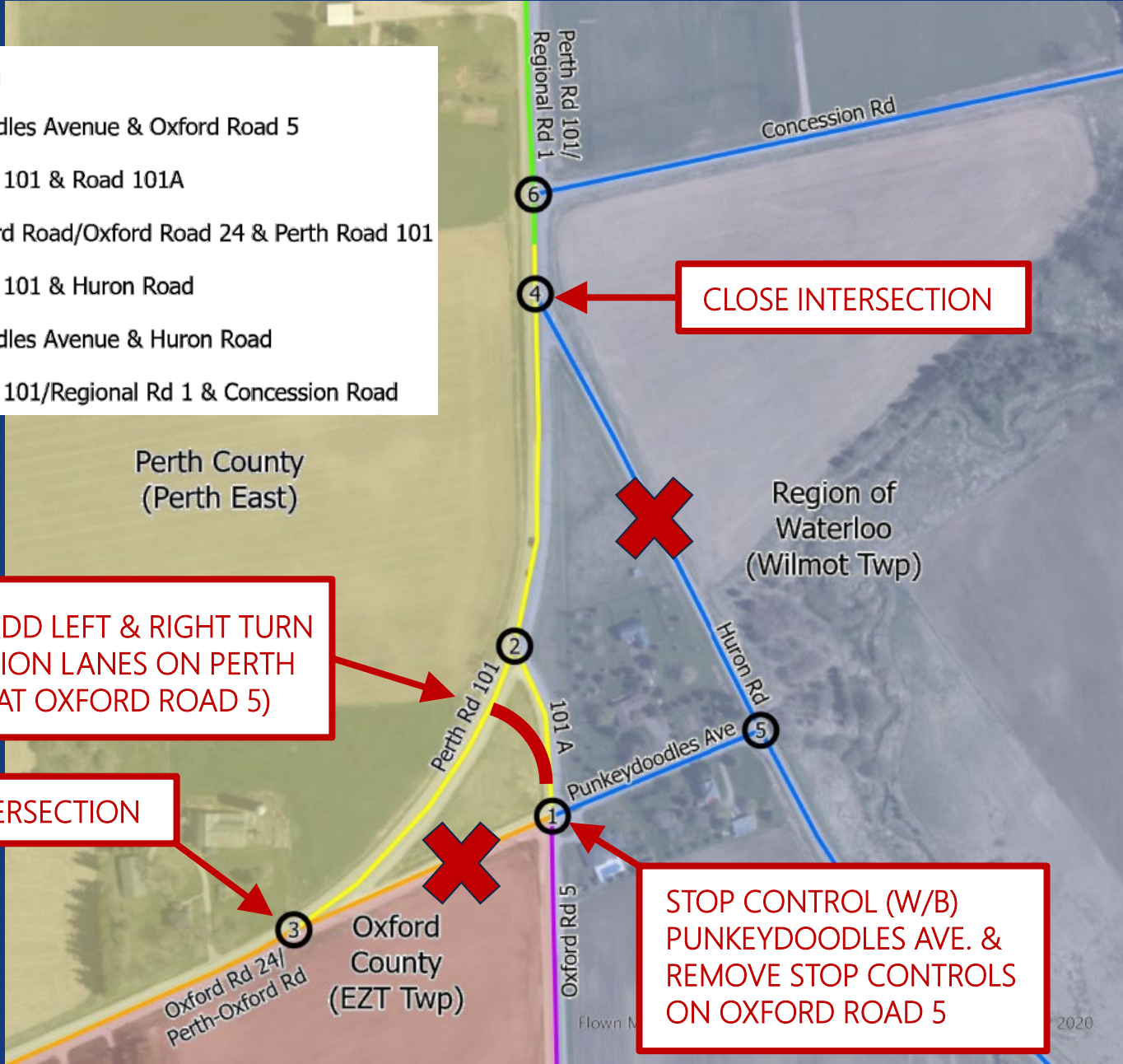


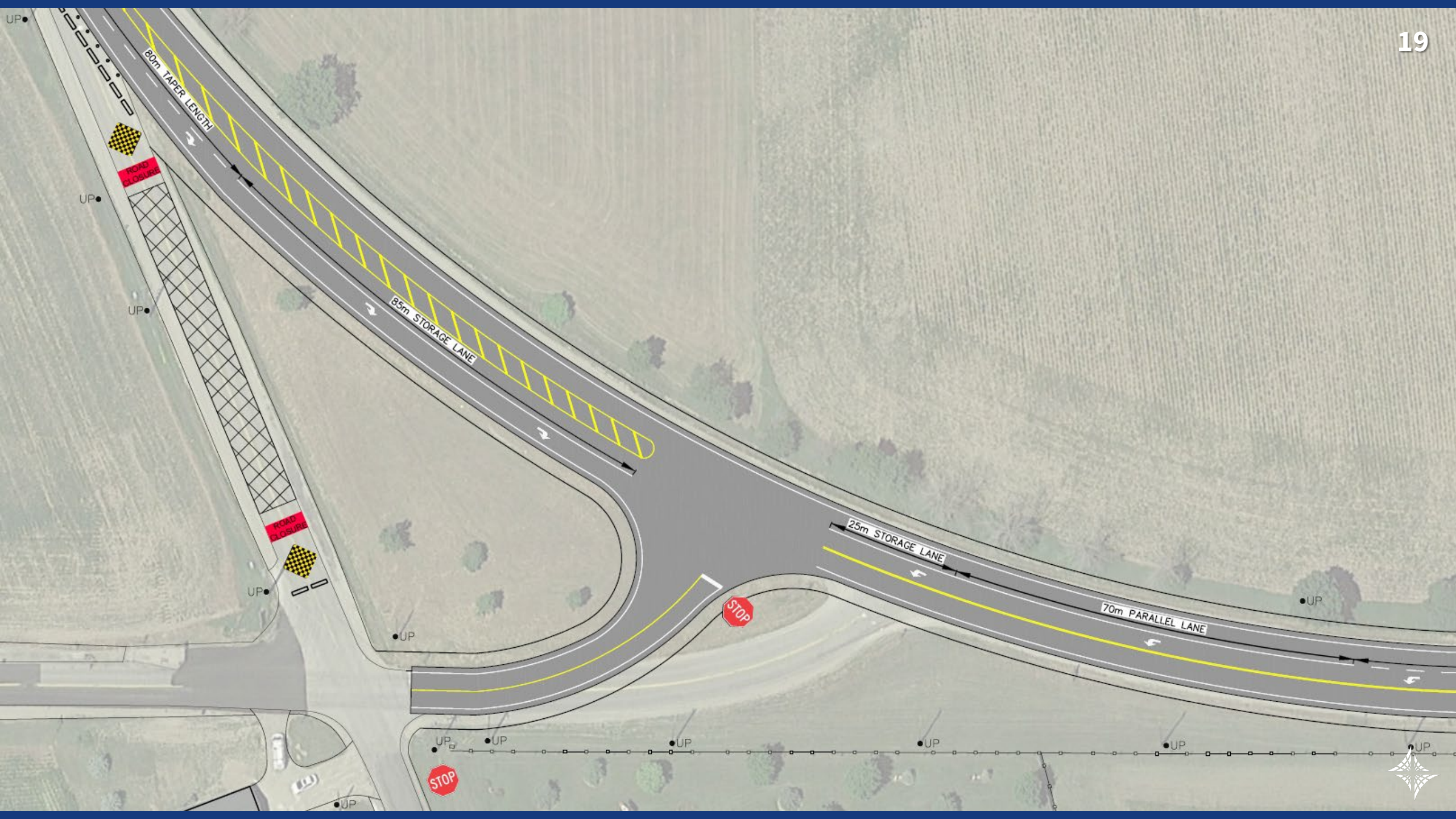
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REALIGN; ADD LEFT & RIGHT TURN DECELERATION LANES ON PERTH ROAD 101 (AT OXFORD ROAD 5)

CLOSE INTERSECTION

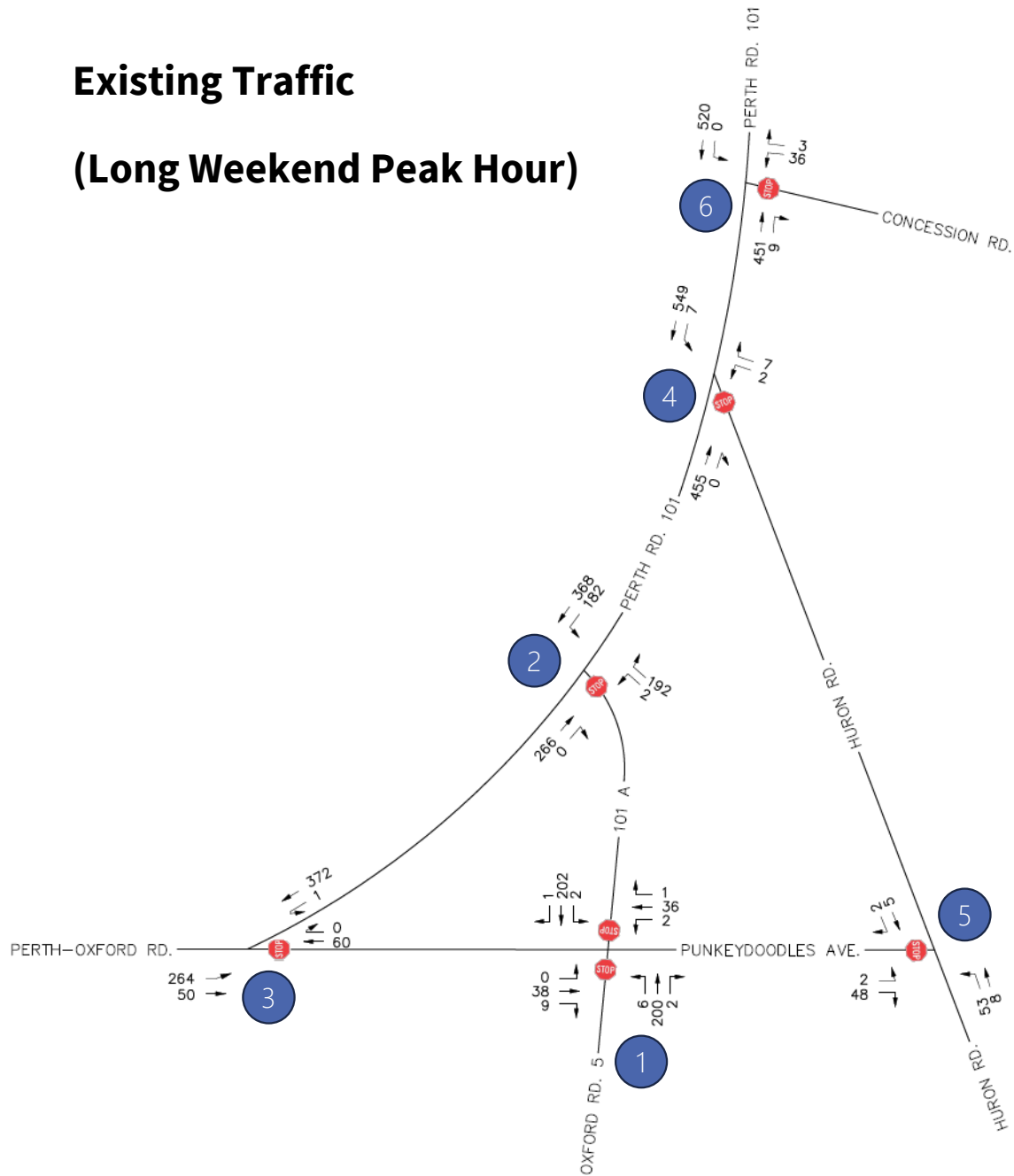
STOP CONTROL (W/B) PUNKEYDOODLES AVE. & REMOVE STOP CONTROLS ON OXFORD ROAD 5





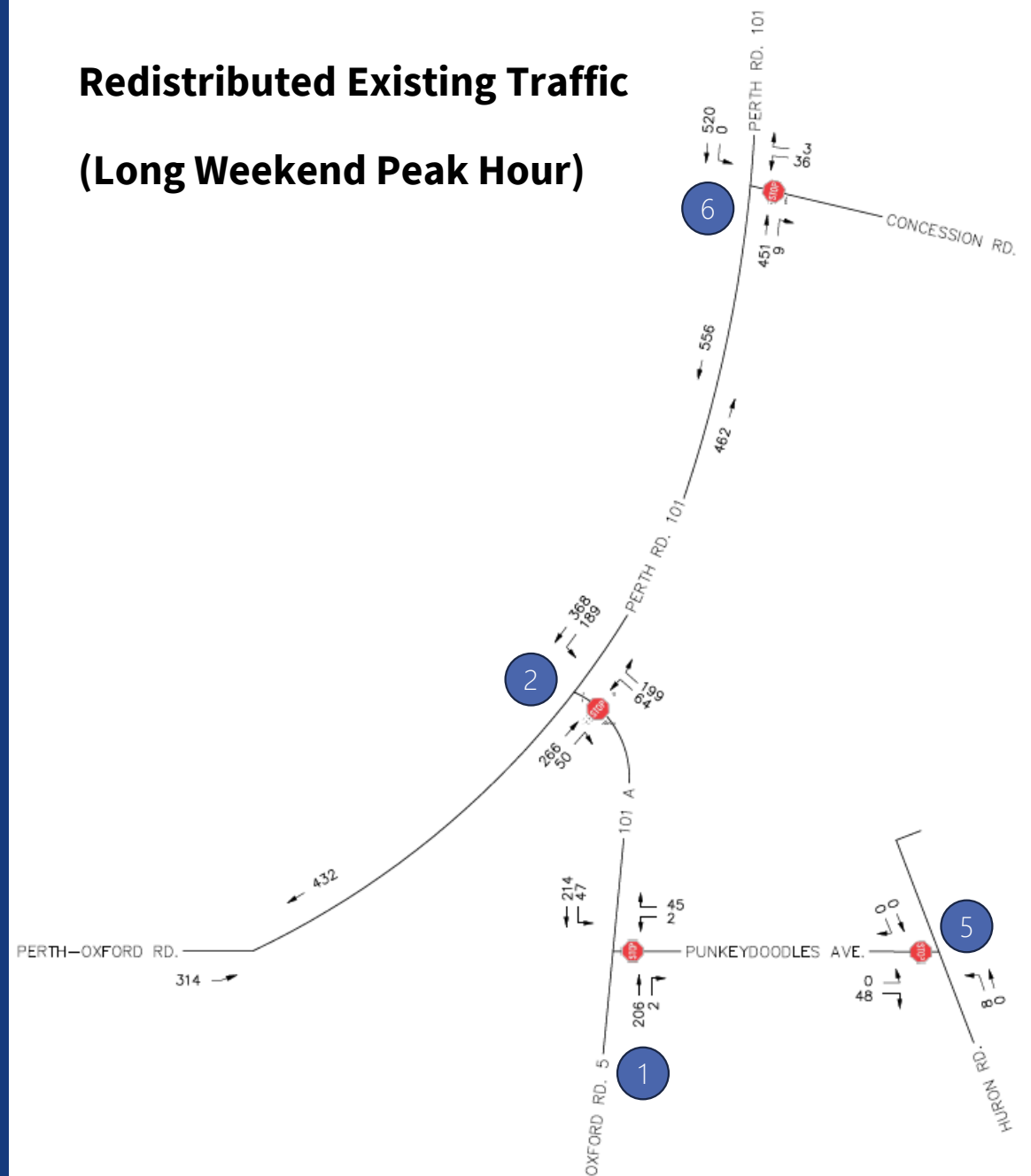
Existing Traffic

(Long Weekend Peak Hour)

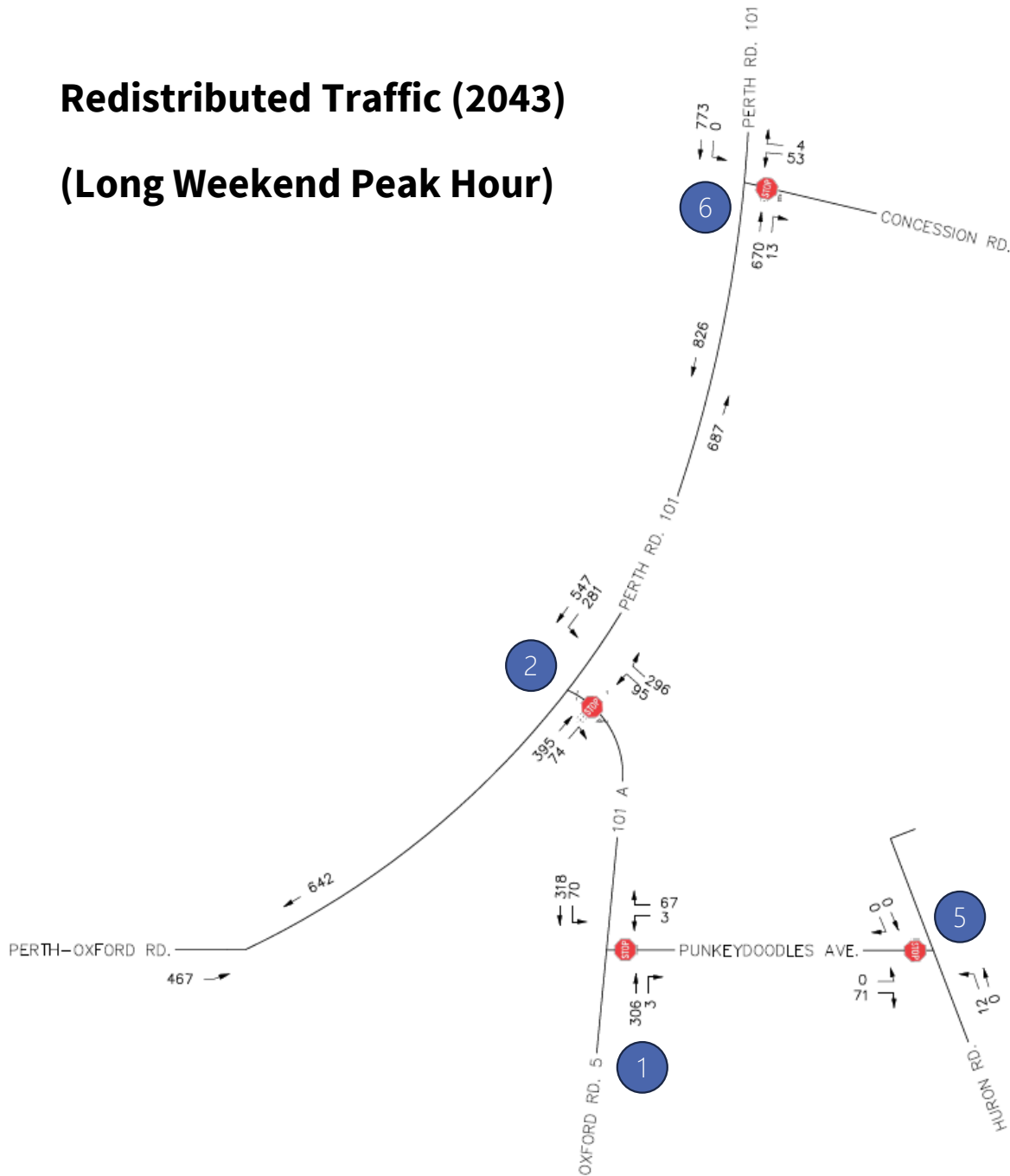


Redistributed Existing Traffic

(Long Weekend Peak Hour)



Redistributed Traffic (2043) (Long Weekend Peak Hour)



To arrive at the 20-year horizon, the long weekend peak hour traffic was projected at a 2% annual growth rate (compounded annually); this results in an effective total traffic increase of about 50%.

Even when traffic is redistributed to a single node, **Intersection 2: Perth Road 101 at Road 101A** does not meet the provincial warrants for implementation of an all-way stop or signal control.

Scenario	Perth Road 101 at Road 101A											
	AM Peak Hour				PM Peak Hour				Weekend Peak Hour			
	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B	E/B	W/B	N/B	S/B
Existing Traffic (Ex. Geometry & Ex. Control)	-	B	A	A	-	B	A	A	-	C	A	A
Existing Traffic (Prop. Geometry & Prop. Control)	-	B	A	A	-	C	A	A	-	D	A	A
Bkgd. Traffic 2043 (Prop. Geometry & Prop. Control)	-	E	A	A	-	F	A	A	-	F	A	A





PERTH-OXFORD RD.
(C.R. 24)

PERTH-OXFORD RD.

OXFORD RD. 5 (C.R. 5)

3

2

1

STOP

MUN NO. 1021



Intersection Control Feasibility Study

Roundabout Considerations

Project Description	Exempt	Eligible for Screening	Schedule B	Schedule C
19a Construction of localized operational improvements at specific locations, and construction of intersections and roundabouts. <ul style="list-style-type: none"> • <i>Project must be within an existing right-of-way</i> • <i>For projects that require property acquisition, refer to project description 33 to determine project schedule</i> 	X			

Note: Any land acquisition will subject the assessment to a Schedule B or Schedule C process, depending on whether the project's cost estimate is under or over \$3.3M.



