



STRATHCONA COUNTY

SOUTH OF WYE AREA REDEVELOPMENT PLAN (ARP) PROJECT

TRANSPORTATION BACKGROUND REVIEW

APRIL 20, 2021



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1 STUDY OBJECTIVES

1.1 INTRODUCTION

This transportation analysis provides an overview of the existing and known future conditions of the transportation network in the South of Wye Area Redevelopment Plan (ARP) Project Area. The overall purpose of the background review is to identify the opportunities and limitations for transportation redevelopment within and adjacent to the Project Area. This report provides an overview of previously completed transportation studies in the area, network performance and identifies development principles that will inform potential land use concept scenario development.

1.2 STUDY OBJECTIVES

The background analysis provides a baseline for the transportation network that can be evaluated against the potential land use concept scenarios. The following key objectives were identified to inform the background analysis:

- Existing conditions:
 - Confirm existing network for all modes and potential opportunities or constraints; and
 - Develop a baseline for existing conditions network performance based on capacity and multi-modal infrastructure.
- Future conditions:
 - Confirm previously identified future transportation network for all modes;
 - Confirm key transportation model inputs; and
 - Develop a future baseline for network performance based on capacity.
- Establish transportation development principles to be considered in future land-use scenario development.

2 EXISTING CONDITIONS

2.1 INTRODUCTION

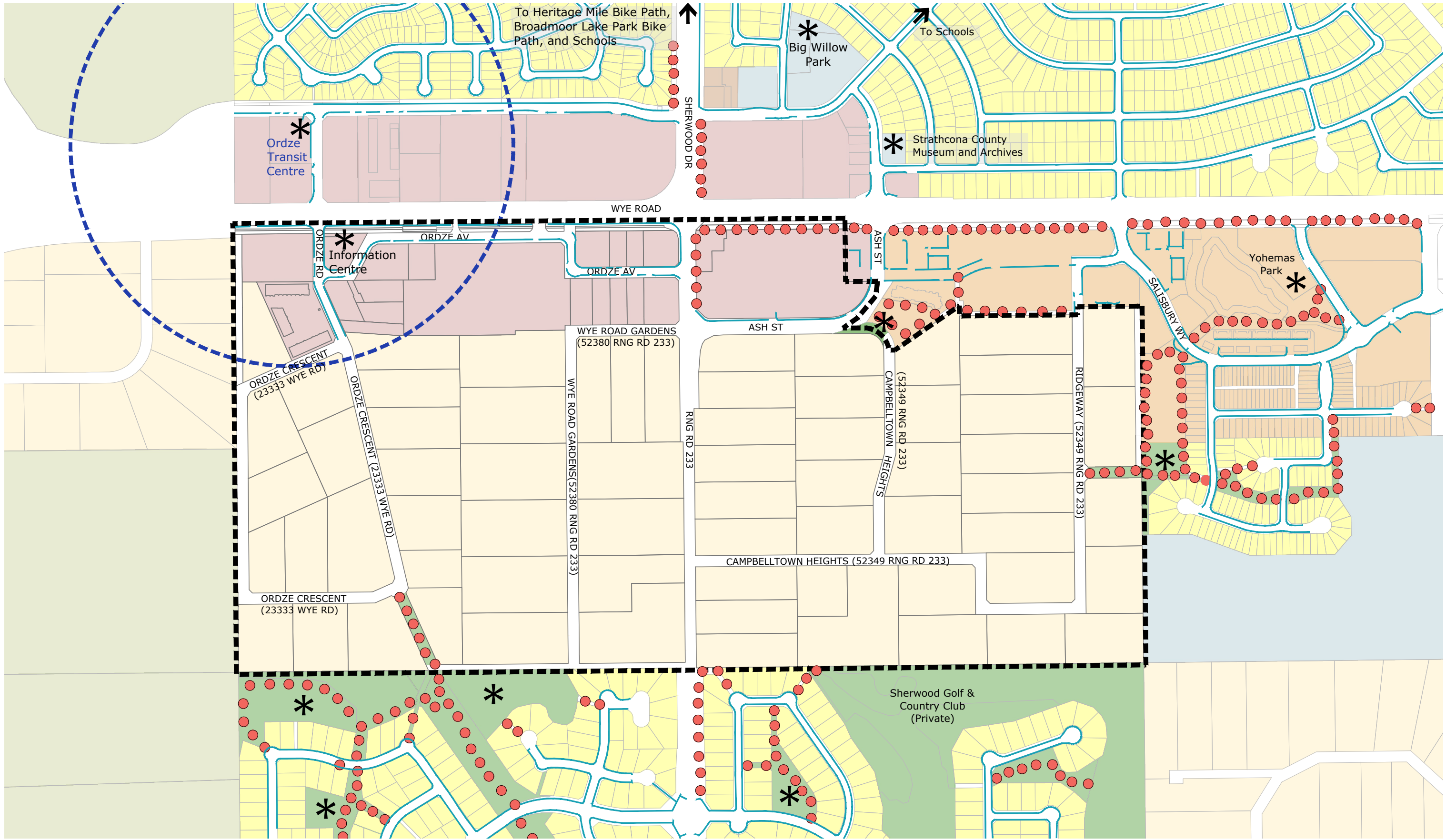
The existing conditions of the pedestrian and cyclist networks, transit, and vehicle and goods movement were reviewed in the Project Area. Opportunities and constraints for each network were also reviewed.

2.2 TRANSPORTATION NETWORKS

2.2.1 PEDESTRIAN & CYCLIST

The existing pedestrian and cyclist network is limited to mostly the north end of the Project Area and consists primarily of 1.5 m sidewalks located in the commercial area and 3.0 m multi-use trails, as shown in **Figure 1**. At the north boundary of the Project Area, key connections to the rest of the walking and cycling network are found via the multi-use trail located along Sherwood Drive. This trail provides links to nearby destinations, including recreation, schools, Ordze Transit Centre and commercial services located north of Wye Road. South and east of the Project Area, a network of multi-use trails connects the project area to residential neighbourhoods.

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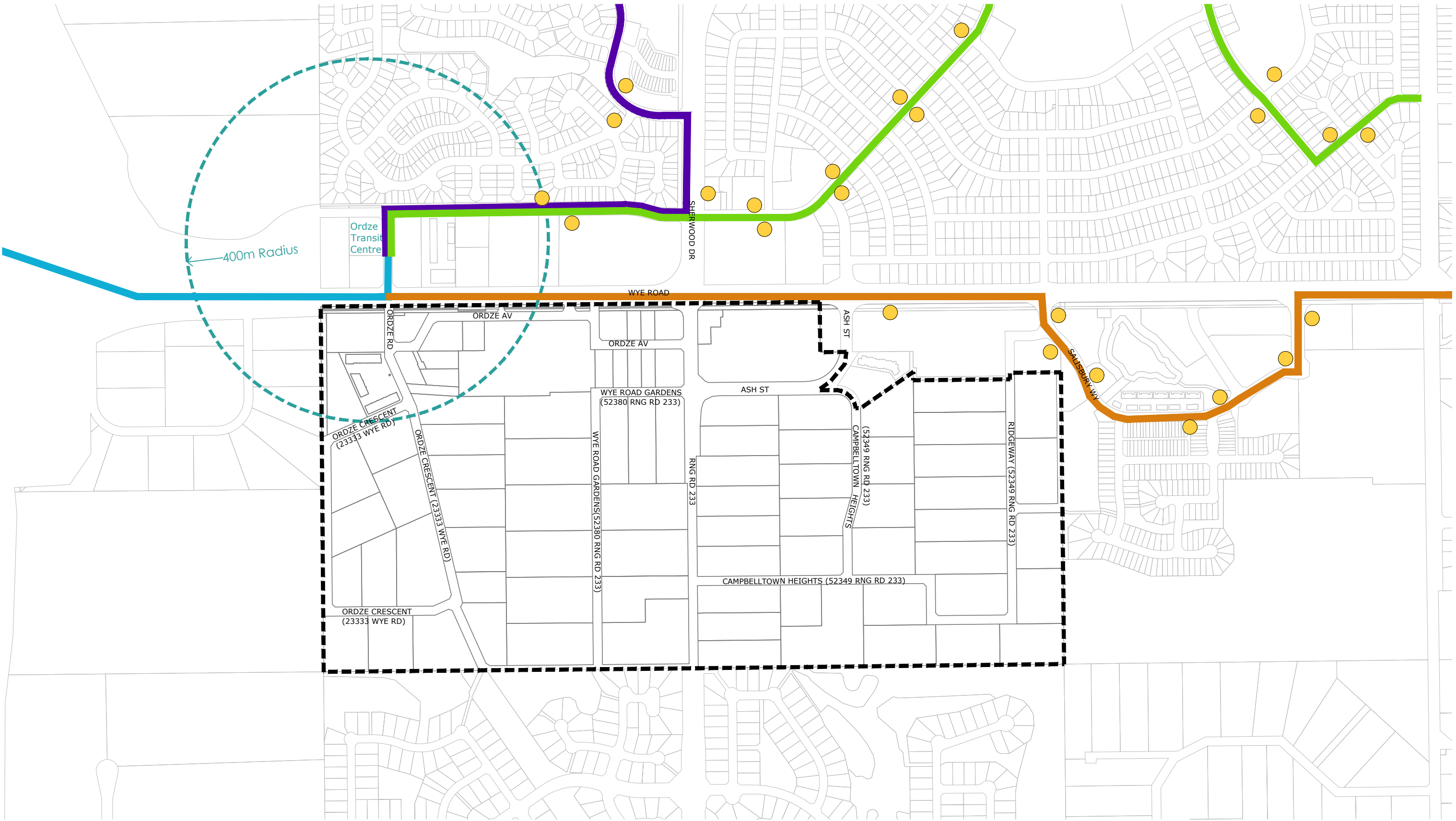
- Legend**
- South of Wye ARP Project Boundary
 - Existing Sidewalk
 - 400m From Ordze Transit Centre
 - Multi-Use Trail
 - Destinations
 - Residential - Low Density
 - Residential - Country Residential
 - Agriculture
 - Commercial
 - Green Space
 - Public Service
 - Mixed Use/Urban Village
 - Medium Density Residential
- Note: The legend depicts general land use categories.

Existing Active Modes Network
Figure 1

2.2.2 TRANSIT

There are no existing transit routes or bus stops within the Project Area. Transit routing along Wye Road includes commuter routes (into Downtown Edmonton and the University of Alberta), and local routes connecting at Ordze Transit Centre. Ordze Transit Centre is located north of the Project Area on Ordze Road. Ordze Transit Centre is within a 400 m radius walking distance of the NW corner of the Project Area. The existing transit network is illustrated in **Figure 2**.

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Legend

- South of Wye ARP Project Boundary
- Local Route 451
- Local Route 443

- Local Route 441
- Commuter Routes 401/403/404
- Bus Stop Locations

Transit Routes
Figure 2

2.2.3 VEHICLES AND GOODS MOVEMENT

Because the Project Area overlaps both the Urban Service Area and the Rural Service Area of Strathcona County, the internal road network is composed of a mixture of urban streets and rural roads including arterials, collector and local road types, shown in **Figure 3**. Arterials provide higher capacity traffic accommodation with limited land access, collectors provide slightly lower capacity traffic accommodation with increased access, and local roads provide access to individual residences and services. On-street parking is not permitted on any of the streets or roads included in the Project Area. A summary of street and road characteristics is included below:

Wye Road is an east-west six-lane divided arterial street with a posted speed limit of 70 km/hr and is the primary access to the Project Area. Wye Road is also designated as a Restricted Dangerous Good Route.

Ordze Avenue is an east-west two-lane urban collector street that provides access to commercial uses south of Wye Road with an assumed speed limit of 50 km/hr as there are no posted signs.

Ash Street is a four-lane urban collector street that connects Wye Road and Range Road 233 with a speed limit of 50 km/hr. Ash Street provides access to commercial uses south of Wye Road.

Ordze Road (23333 Wye Road) is a two-lane north-south urban collector street south of Wye Road to Ordze Avenue with a 50 km/hr posted speed limit.

Ordze Crescent (23333 Wye Road) is a two-lane, north-south, paved local road south of Ordze Avenue with a 50 km/hr posted speed limit.

Wye Road Gardens (52380 Range Road 233), Campbelltown Heights (52349 Range Road 233), and Ridgeway (52349 Range Road 233) are paved rural two-lane local roads that provide access to residents within the Project Area. The assumed speed limit of these is 50 km/hr.

Key intersections, traffic controls and volumes within the Project Area are identified in **Section 2.4** of this report.

Phase 1 of the Sherwood Drive Functional Improvements and the final phase for Wye Road Improvements projects were ongoing in 2020 and the completion of that project been assumed as part of the existing conditions network. Sherwood Drive Functional Improvements Project lane and signal modifications include:

- New double left-turn lane westbound on Wye Road turning into Sherwood Drive/Range Road 233;
- Lengthen the left-turn lane for vehicles going northbound to westbound at the Wye Road/Sherwood Drive intersection;
- Lengthen the northbound left turn lane from Sherwood Drive onto Fir Street (west) (outside of the Project Area);
- Removal of traffic signals and conversion of the all-directional access along Range Road 233 at Walmart/Ordze Avenue to right-in/right-out and north bound left-in only;
- Conversion of the all directional access along Sherwood Drive at Sherwood Centre (Petro Canada/Shoppers Drug Mart) to right-in/right-out only (outside of Project Area); and
- Relocation of traffic signals on Range Road 233 at Walmart/Ordze Avenue access, south to Ash Street/Wye Road Gardens.

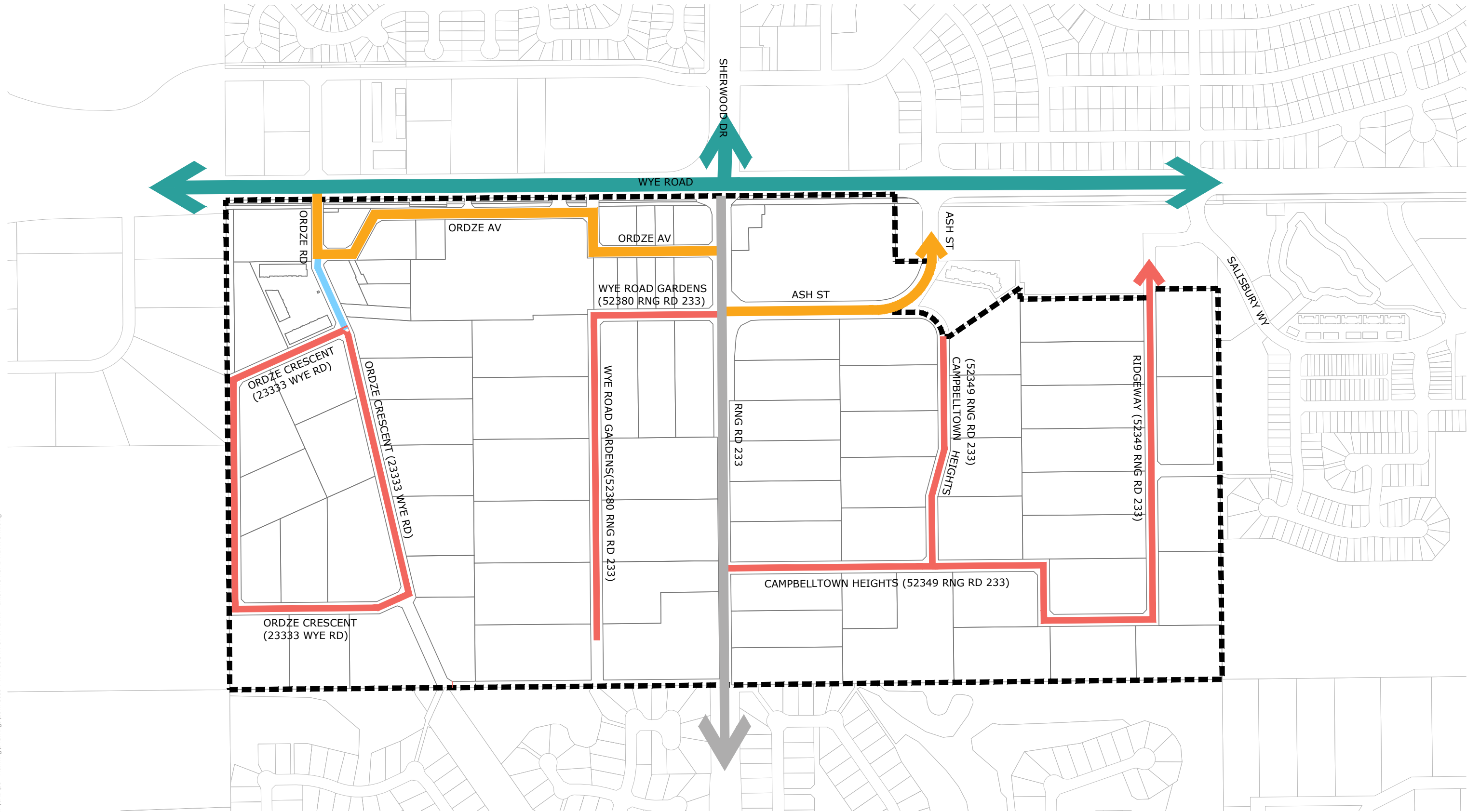
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Legend

- South of Wye ARP Project Boundary
- Urban Arterial Street
- Urban Collector Street

- Urban Local Road
- Rural Local Road
- Rural Collector Road



**Existing
Road Network**
Figure 3

2.3 OPPORTUNITIES & CONSTRAINTS

2.3.1 PEDESTRIAN AND CYCLING

The Project Area is connected to several multi-use trail connections to adjacent neighbourhoods south, east and north, but is lacking internal pedestrian and cyclist connections. Active transportation connectivity through the Project Area has previously been noted as a challenge through the Range Road 233 Functional Planning Study (2008), Integrated Transportation Master Plan (2012) and Strathcona County Trails Strategy (2012). Public engagement results from the ARP Project, as summarized in the November 2020 *South of Wye ARP Project Phase 1 What We Heard Report*, identified a desire to improve the active transportation network throughout the Project Area to support healthy lifestyles and connections to commercial uses. Several comments highlighted the desire for a multi-use-trail on Range Road 233 with connections to trails north of Wye Road on Sherwood Drive.

The Range Road 233 Functional Planning Study identified a proposed future multi-use-trail alignment on the west side of Range Road 233 from Ash Street to Fountain Creek Boulevard and the east side of Range Road 233 south of Fountain Creek Boulevard. Previously recommended potential future multi-use-trail alignments within the Country Residential Area Concept Plan are shown in **Figure 4**. These recommended connections will be reviewed for location and facility type as part of the South of Wye ARP Project.

There are no current connections within the country residential portion of the Project Area in the east-west direction for pedestrians or cyclists. East-west connections should be reevaluated with potential land use concept scenarios to support active transportation access to destinations. Facility type should be context sensitive to identified land use and street or road type.

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April 2021



Legend

- South of Wye ARP Project Boundary
- Existing Sidewalk
- 400m From Ordze Transit Centre

- Existing Multi-Use Trail
- Proposed Future Trail Alignment

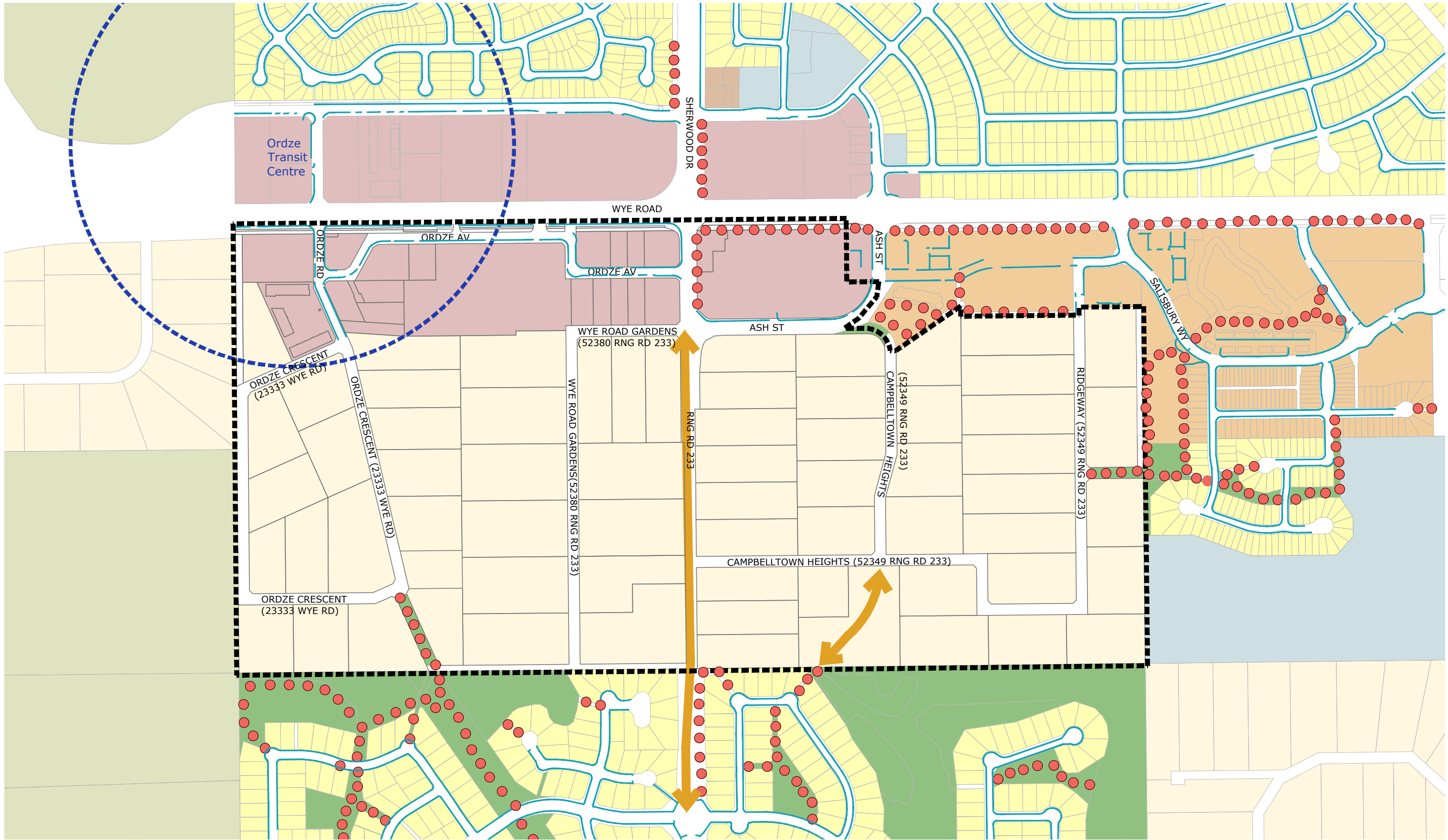
- Residential - Low Density
- Residential - Country Residential
- Agriculture
- Commercial

- Green Space
- Public Service
- Mixed Use/Urban Village
- Medium Density Residential

Note: The legend depicts general land use categories.

Proposed Future Trail Alignments

Figure 4



2.3.2 TRANSIT

Transit routes near the Project Area start or end at the Ordze Transit Centre, north of the Project Area on Ordze Road (shown in **Figure 2**). There is an opportunity to increase access to transit from the Project Area at the Wye Road and Ordze Road crossing by enhancing active transportation connections from residential and commercial uses. Other opportunities include a review of the establishment of bus stops that could support on-demand transit services to the area. Potential land use concept scenarios may require the introduction of transit service into the Project Area through fixed-routes such as local routes in the urban service area and on-demand transit in rural areas.

2.3.3 VEHICLE AND GOODS MOVEMENT

The Project Area is bounded at the north end by Wye Road, which is a key east-west arterial road through Sherwood Park and provides critical vehicular, transit, and goods movement access to the region. The Project Area is also bisected by the primarily rural Range Road 233, which connects south to Township Road 522. Restricted Goods Movement is expected to be maintained on Wye Road with no additional routes through the Project Area. There are four all-directional accesses from Wye Road to the Project Area including: Ordze Road (23333 Wye Road), Range Road 233, Ash Street and Salisbury Way, but only two accesses to Range Road 233 through Wye Road Gardens/Ash Street and Campbelltown Heights (52349 Range Road 233). Collector and local roads serve residents in the area and carry low vehicle volumes.

Any future links within the Project Area will be driven by the recommended land use concept and will consider opportunities to integrate facilities that serve active modes and transit. Other opportunities in the area for the road network include upgrading cross-sections from rural to urban for key streets such as Range Road 233. Upgrades would be driven by several factors including the recommended land use concept, utility considerations, increased volumes, safety improvements, and active modes integration.

2.4 TRAFFIC VOLUMES

An estimate of the existing afternoon peak hour traffic volumes was developed from several data sources. **Table 2-1** summarizes the source of existing traffic volume data by intersection.

Table 2-1 Existing Traffic Data Sources

INTERSECTION	DATA SOURCE
Range Road 233 & Ordze Avenue	Strathcona County Turning Movement Count – April 2019 ADT
Range Road 233 & Ash Street	Strathcona County Turning Movement Count – April 2019 ADT
Wye Road & Ash Street	Strathcona County Turning Movement Count – December 2018 24-hr Volumes
Wye Road & Hawthorne Street/Salisbury Way	Strathcona County Turning Movement Count – July 2019 24-hr Volumes
Wye Road & Range Road 233	Strathcona County Turning Movement Count – June 2018 24-hr Volumes
Wye Road & Ordze Road (23333 Wye Road)	Ordze Commercial Traffic Impact Assessment - December 2017
Ordze Road/Crescent (23333 Wye Road) & Ordze Avenue	Ordze Commercial Traffic Impact Assessment - December 2017
Range Road 233 & Balmoral Way / Clubhouse Drive (52328 Range Road 233)	Sherwood Golf & Country Club Estates Stage 2B Traffic Brief
Range Road 233 & Campbelltown Heights (52349 Range Road 233)	No data available – Estimated
Wye Road & Right-in Access (BMO)	No data available – Estimated
Wye Road & Right-in / Right-out Access (Canadian Tire)	No data available – Estimated

The turning movement counts received from Strathcona County were in the format of either average daily traffic (ADT) or 24-hour traffic volumes. To convert this data into afternoon peak hour volumes, WSP assumed that the afternoon peak hour is 10% of the daily traffic volume. This is a common assumption used to approximate the afternoon peak hour traffic volumes when only daily traffic volumes are available. To estimate traffic patterns that are representative of the afternoon peak hour direction, traffic volumes collected in 2017 along the Wye Road and Range Road 233 corridors (provided by the County in the form of Synchro files) were used to distribute traffic at individual intersections.

The *Ordze Commercial Traffic Impact Assessment*, further discussed in **Section 3.2.3**, was used to obtain 2019 afternoon peak hour traffic volumes at the Wye Road and Ordze Road (23333 Wye Road) intersection and the Ordze Road/Crescent (23333 Wye Road) and Ordze Avenue intersection. The 2019 traffic volumes were estimated based on 2017 turning movement counts and by applying background traffic growth and development traffic from the commercial site, south of Wye Road.

The traffic volumes at the Range Road 233 & Balmoral Way/Clubhouse Drive (52328 Range Road 233) roundabout were extracted from a traffic brief memorandum prepared by Al-Terra Engineering Ltd. The traffic brief included a turning movement count conducted at the roundabout in February 2018.

No traffic volume data was available at the Range Road 233 and Campbelltown Heights (52349 Range Road 233) intersection or the right-in / right-out accesses on Wye Road; therefore, afternoon peak hour traffic volumes were estimated at these locations. At Campbelltown Heights, a trip generation estimate was developed based on the number of residences with access to Campbelltown Heights and recognizing that traffic can exit the neighbourhood via Range Road 233 or Green Street / Salisbury Way. The traffic volumes at the right-in / right-out accesses on Wye Road were estimated based on the future link traffic volumes in the 2044 County Travel Demand Model (TDM). As the 2044 TDM only forecasted a small amount of traffic using these accesses, 10 vehicles at the BMO access and 30 vehicles at the Canadian Tire access, the same amount was assumed under existing conditions.

The final step to completing the existing traffic forecast was to re-route traffic at the Range Road 233 and Ordze Avenue intersection to account for the conversion from a full movements access to a limited movements intersection. The new intersection configuration allows only northbound left-turns, throughs and right-turns, southbound throughs and right-turns, eastbound right-turns and westbound right-turns.

The completed existing conditions afternoon peak hour forecast, with traffic volumes balanced between intersections and rounded to the nearest 5, is illustrated in **Figure 5**. Daily link volumes are included in **Figure 6**.

2.5 EXISTING NETWORK TRAFFIC OPERATIONS

The analysis of the existing network was conducted using Synchro Studio 10 and SIDRA 7, both industry standard software programs for the analysis of signalized/stop-controlled intersections and roundabouts, respectively. Synchro and SIDRA produce two key measures to determine the operational effectiveness of an intersection or roundabout. The first is level of service (LOS), which is based on the average delay per vehicle, and the second is the volume-to-capacity (v/c) ratio, which indicates the available capacity of an intersection or individual movement.

Under existing conditions, the majority of study intersections operate at an overall acceptable LOS. The Wye Road Corridor has been optimized to operate by prioritizing the through movements on Wye Road, while generally maintaining a minimum wait time of one signal cycle for vehicles accessing Wye Road from side streets.

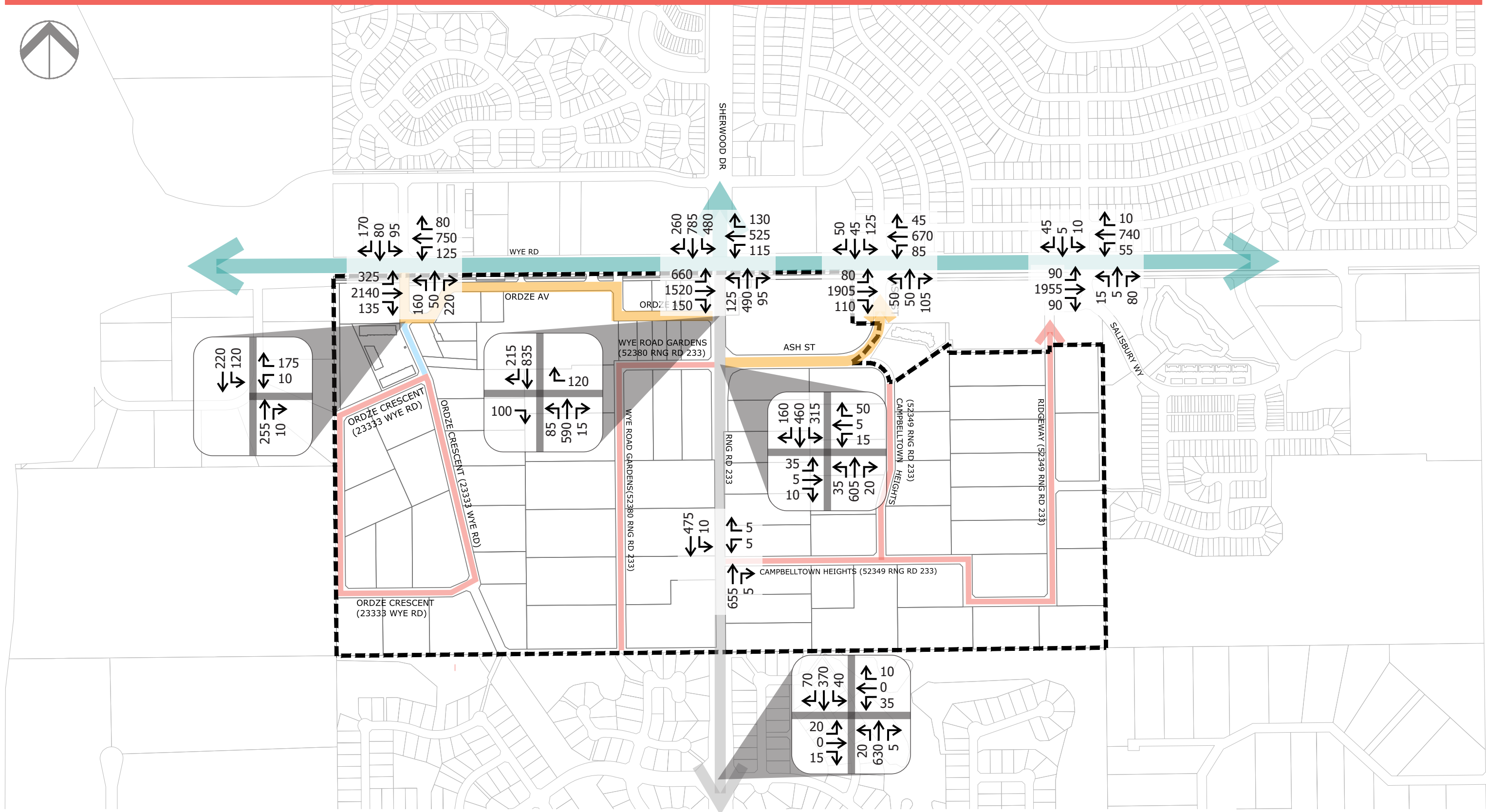
2.6 EXISTING NETWORK SUMMARY

The South Wye ARP Project Area transportation network includes a network of urban and rural arterial, collector and local streets and roads that support the movement of vehicles, transit and goods. The existing lane configuration and traffic control at study intersections is illustrated in **Figure 7**. There are a limited number of trails and sidewalks within the plan area that serve pedestrians and cyclists.

There is the opportunity to enhance active modes through the Project Area by adding north-south connections and improving transit accessibility by enhancing the pedestrian crossing at Wye Road and Ordze Crescent/Ordze Road (23333 Wye Road). Opportunities for the street network include the addition of east-west connections to improve accessibility and upgrades from rural to urban cross-sections on key roads such as Range Road 233.

Transportation network improvements including east-west road connections and north-south active mode connections should be determined based on the potential land use concept scenarios and in consultation with the public.

South of Wye ARP Project

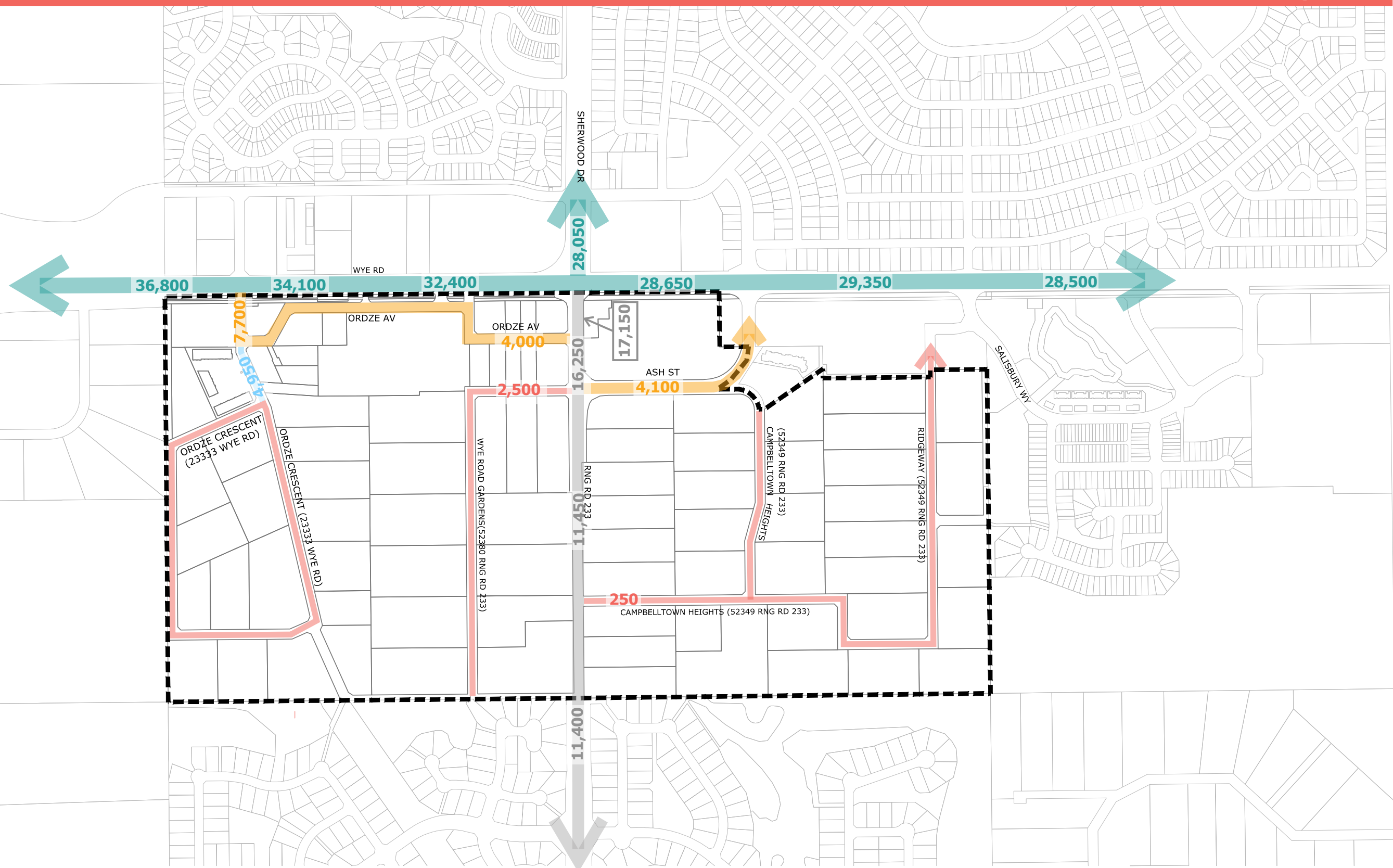


Existing Peak Hour Traffic Volumes
Figure 5

January 2021



South of Wye ARP Project



Legend

- South of Wye ARP Project Boundary
- Urban Arterial Street
- Urban Collector Street
- Urban Local Road

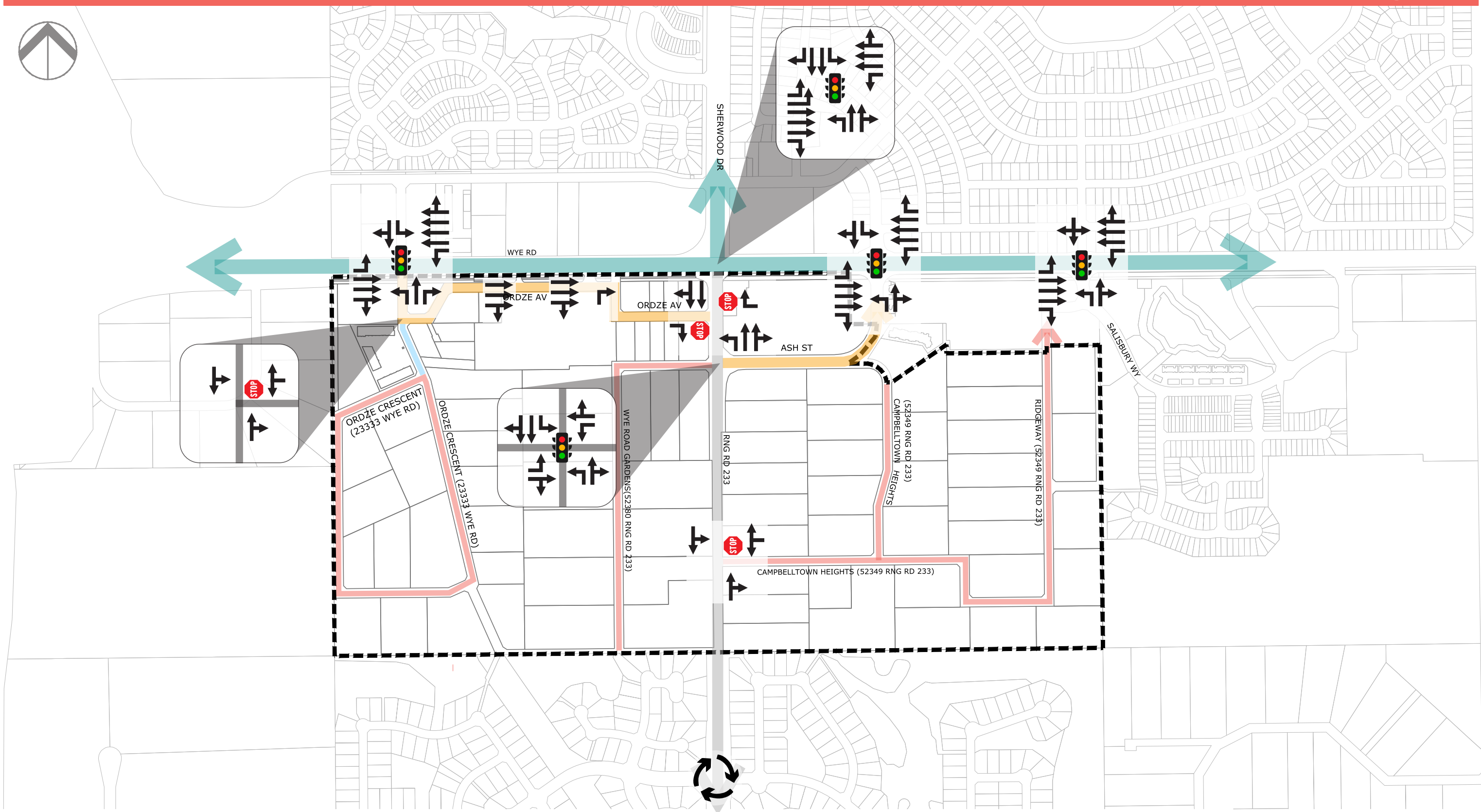
- Rural Local Road
- Rural Collector Road
- ##/##/##/## Daily Link Traffic Volumes

Existing Daily Link Traffic Volumes
Figure 6

January 2021



South of Wye ARP Project



Existing Lane Configuration and Traffic Control
Figure 7

January 2021



- Legend**
- South of Wye ARP Project Boundary
 - Urban Arterial Street (3 Through Lanes per Direction)
 - Urban Collector Street (1 or 2 Through Lanes per Direction)
 - Rural Local Road (1 Through Lanes per Direction)
 - Rural Collector Road (1 or 2 Through Lanes per Direction)
 - Urban Local Road

3 FUTURE CONDITIONS

3.1 INTRODUCTION

The purpose of the future condition analysis is to understand what existing gaps and opportunities exist in the transportation network within and around the Project Area. This assessment will provide an overview of what potential updates may be needed if there is future densification in the area, as well as what additional improvements may be needed regardless of any identified changes in the Project Area through the recommended land use concept.

The 2044 baseline future network was confirmed based on a review of available transportation studies and long-term network assumptions. The *Wye Road Functional Planning Study* and *Range Road 233 Functional Planning Study* primarily establishes the baseline future network. Minor enhancements were assumed to the active transportation network based on available plans. No additional transit service was identified for the Project Area.

3.2 APPROVED TRANSPORTATION STUDIES AND INPUTS

The base future transportation network is informed by higher level policy documents including the *Municipal Development Plan* and the *Integrated Transportation Master Plan*, *Strathcona County Trails Strategy*, the 2044 Travel Demand Model, Traffic Impact Assessments and major functional planning studies. A summary of these studies and their key outcomes as it relates to the Project Area network are discussed below.

3.2.1 POLICY CONTEXT

The *Municipal Development Plan (2017)* and the *Integrated Transportation Master Plan (2012)* provide the high-level framework for integrating transportation and land use. An update to the Transportation Master Plan is currently underway; any potential impacts from this upgrade will be incorporated if they are available within the ARP Project study timeline. Lands within the Project Area are located within two different Municipal Development Plan policy areas. At the north end, the land within the Urban Service Area is included in the Compact Development Policy Area. At the south end, the Rural Service Area lands are identified as Country Residential Policy Area. Key themes found in those policy areas that will be considered in development principles and the future development scenario transportation network are described below:

General:

- Cost:
 - Developers are required to pay their proportionate share of cost of infrastructure to facilitate their development; and
 - Costs of existing and future streets should be reduced by promoting Transportation Demand Management Principles.

Compact Development Policy Area:

- Land use and Transportation Integration
 - Implementation of transit-oriented development, context sensitive street design, and complete streets; and
 - Parking policies including any new parking restricted to on-street, underground or stacked parking. Surface parking may be considered where it does not impede active mode accessibility and is located away from the street.
- Public Transit:

- o Transit upgrades are prioritized for the Compact Development Policy Area in addition to express transit service from the Compact Development Policy Area to broader destinations. There may be the opportunity for higher order transit, commuter transit and transit corridors on Wye Road.
- Active Transportation:
 - o Safe, efficient, unobstructed and accessible active transportation infrastructure connections across major streets, between residents and services, on both sides of street and to transit-controlled locations;
 - o Active transportation safety and comfort is prioritized at intersections; and
 - o Bicycle parking is provided for all developments.
- Street Network:
 - o Grid or modified grid street pattern for redevelopment of large sites;
 - o Street design is context sensitive and reflects complete streets;
 - o Network supports inter-connected multi-modal transportation system; and
 - o Vehicle level of service and modal split that reflects multi-modal transportation goals of the policy area.

Country Residential Policy Area:

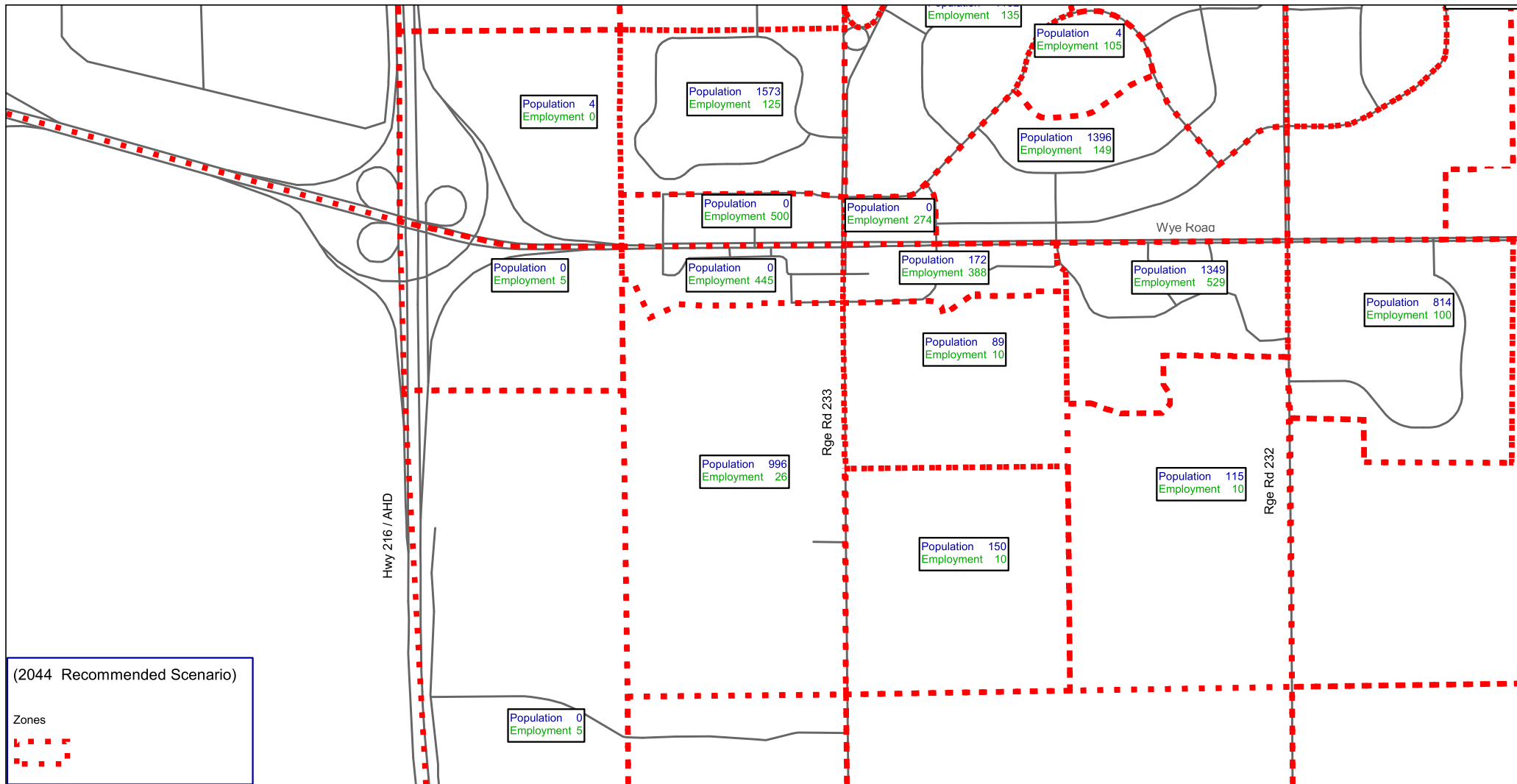
- Ensure efficiently designed developments that occur in an orderly manner by requiring:
 - o That infrastructure is designed effectively and efficiently; and
 - o That all new parcels have access to a street.
- Promote efficiently designed developments that occur in an orderly manner by encouraging:
 - o All new multi-parcel country residential subdivisions to include an internal street.

The *Strathcona County Trails Strategy (2012)* guides the provision of trails for County residents over a 15-year period. The provision of trail connections as an alternative to roadways for people walking, jogging and biking is desired in this area. The Strategy includes an appendix with the Country Residential Area Concept Plan that includes possible and proposed trail alignments through the Project Area.

3.2.2 STRATHCONA COUNTY TRAVEL DEMAND MODEL

Strathcona County provided outputs from their 2030 and 2044 travel demand model, including the number of lanes, afternoon peak hour v/c ratios, afternoon peak hour link traffic volumes, and zonal population and employment assumptions. The 2044 model afternoon peak hour link traffic volumes were used in the development of the future baseline traffic volumes at study intersections. The zonal population and employment assumptions for the 2044 horizon within the Project Area are illustrated in **Figure 8**.

South of Wye ARP Project



Strathcona County 2044 Transportation Model

2020-09-13

2044 Recommended Scenario - Zonal Population & Employment

3.2.3 TRAFFIC IMPACT ASSESSMENTS

One approved traffic impact assessment (TIA) was provided by the County for consideration of the base future network. The TIA, titled *Ordze Commercial Traffic Impact Assessment* (Bunt & Associates, 2017), analyzes the impact of a future mixed-use development located in the northwest quadrant of the Ordze Crescent (23333 Wye Road) and Ordze Crescent West (23333 Wye Road) intersection. The proposed land use plan for the development included 42,152 ft² of commercial space and 16,263 ft² of office space. At full build-out, the site was forecast to generate 136 two-way trips during the morning peak hour and 354 two-way trips during the afternoon peak hour.

Based on the analysis of an opening day (2019) scenario and an opening day plus five years scenario (2024), the following conclusions/recommendations were presented:

- The Ordze Avenue and Ordze Crescent (23333 Wye Road) intersection and the Ordze Crescent West (23333 Wye Road) and Ordze Crescent (23333 Wye Road) intersection as well as the site access to Ordze Crescent (23333 Wye Road) are all anticipated to operate very well in all potential land use concept scenarios.
- The Wye Road and Ordze Road (23333 Wye Road) intersection is expected to require modifications to signal timing in order to maintain acceptable levels of service.
- The northbound left-turn lane at the Wye Road and Ordze Road (23333 Wye Road) intersection will need to be extended as per the Wye Road Functional Planning Study.

Strathcona County has continued to observe the signalized intersection of Wye Road and Ordze Road (23333 Wye Road) and has not yet perceived any operation or congestion concerns requiring modifications. Strathcona County will continue to monitor through field observations and adjust timings if feasible.

3.2.4 STREET DESIGN & ASSUMED GEOMETRY

Strathcona County has completed several construction projects, functional planning studies (FPS) and detailed designs for streets included in the Project Area that impact the future network. Primary impacts to the Project Area street network are delineated through the Wye Road FPS and Range Road 233 FPS/design. The assumed future street and road network is included in **Section 3.4**.

Table 3-1 Future Road Network Inputs

Study	Year	Key Outcomes
<i>Range Road 233 FPS Ash Street to Highway 628</i>	2008	• Applies to Fountain Creek Way (52304 Range Road 233) to Highway 628, except between Ash Street and Fountain Creek Way (52304 Range Road 233) where a more recent project superseded this study. • 2-lane rural cross section Highway 628 to Balmoral Way (52328 Range Road 233) • Protection of 45.0 m ROW on west side of Range Road 233 for four-lane urban cross-section widening and 3.0m multi-use trail. • Single-lane roundabouts at: - o Fountain Creek Way - o Fountain Creek Boulevard (52304 Range Road 233) - o Aspen Heights (23330 TWP Road 422) - o Victorian Park Drive (52216 Range Road 233) • Multi-use trail: - o West side of Range Road 233 from Fountain Creek Way (52304 Range Road 233) to Fountain Creek Boulevard (52304 Range Road 233) - o East side south of Fountain Creek Boulevard (52304 Range Road 233) to Highway 628
<i>Wye Road Functional Planning Study and Improvements; Sherwood Drive Improvements</i>	2015	Generally, includes widening to 6 lanes divided arterial street, plus auxiliary lanes and double left turn lanes at key intersections from Highway 216 to Highway 21. Intersection improvements include Sherwood Drive, Brentwood Drive, Clover Bar Road. Future conditions reflect full implementation of the Functional Planning Study.
<i>Wye Road Urban Design Guidelines</i>	2018	Provides a reference for ongoing design and development on Wye Road. Guidelines are not expected to impact transportation analysis. Guidelines will be considered in development principles and future scenario development with the ARP boundary.

3.2.5 ACTIVE TRANSPORTATION NETWORK

The future conditions active transportation network includes connections identified in the Strathcona County Trails Strategy and Range Road 233 Functional Planning Study as shown in **Figure 5**.

3.3 FUTURE TRAFFIC VOLUMES

The future afternoon peak hour traffic volumes at study intersections were estimated based on the afternoon peak hour link volumes from the County's 2044 TDM. Based on a comparison of the 2044 TDM traffic volumes and the existing traffic volumes, it was noted that the 2044 afternoon peak hour link volumes only showed an increase in traffic along Wye Road and all other study roads showed a decrease or similar amount of traffic. Based on this observation, only the 2044 afternoon peak hour link volumes along Wye Road were used and traffic volumes on other study roads were kept the same or increased only to reflect the increase in traffic making turning movements off of or onto Wye Road. One exception to this is the Range Road 233 and Balmoral Way/Clubhouse Drive (52328 Range Road 233) roundabout, where traffic volumes turning into/out of Clubhouse Drive (52327 Range Road 233) were increased to reflect future growth in the Sherwood Golf and Country Club Estates. To establish turning movements at study intersections, the existing afternoon peak hour traffic patterns were used. The future (2044) baseline peak hour traffic volumes are illustrated in **Figure 9** and the future daily link traffic volumes are illustrated in **Figure 10**.

3.4 FUTURE NETWORK TRAFFIC OPERATIONS

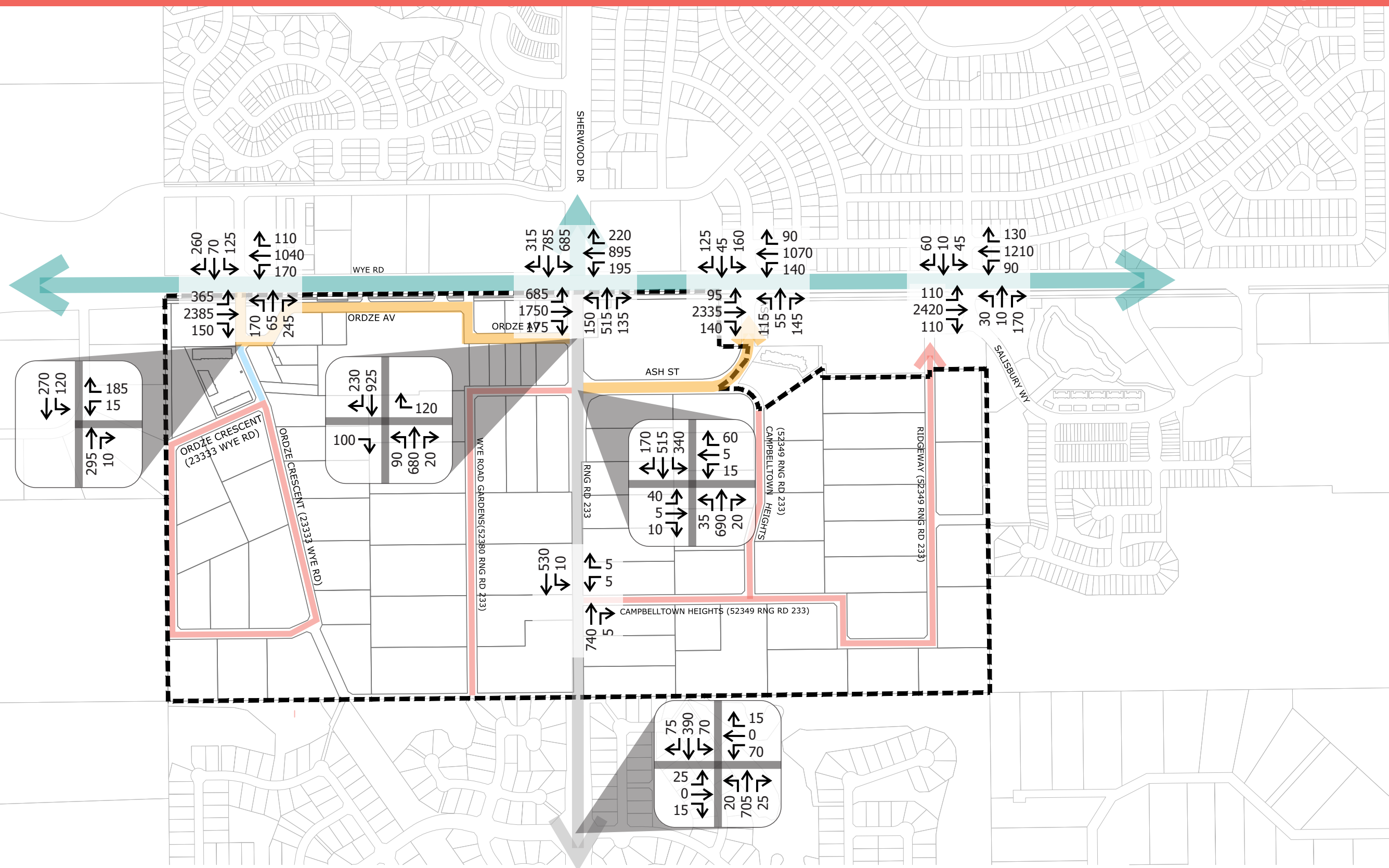
As with the existing network, the baseline future network was evaluated using Synchro Studio 10 and SIDRA 7 for the analysis of signalized/stop-controlled intersections and roundabouts, respectively.

As expected, as traffic volumes grow along Wye Road over the next 25 or so years, some turning movements may experience slightly longer delays. This is likely to be mitigated through ongoing future evaluation of operations along the corridor to continue to prioritize through movements on Wye Road, while maintaining access. The capacity of these intersections will be evaluated again with any additional traffic which may be generated from proposed future land use concepts.

3.5 BASELINE FUTURE NETWORK SUMMARY

The assumed baseline future network with number of lanes, intersection operation and control are included in **Figure 11**. The future baseline road network was established using the recommendations contained in the *Wye Road Functional Planning Study* (2015). Recommendations at existing intersections, such as extending turning lane storage length or adding additional lanes were included; however, new street or road connections were not included.

South of Wye ARP Project



Legend

- South of Wye ARP Project Boundary
- Urban Arterial Street
- Urban Collector Street
- Urban Local Road

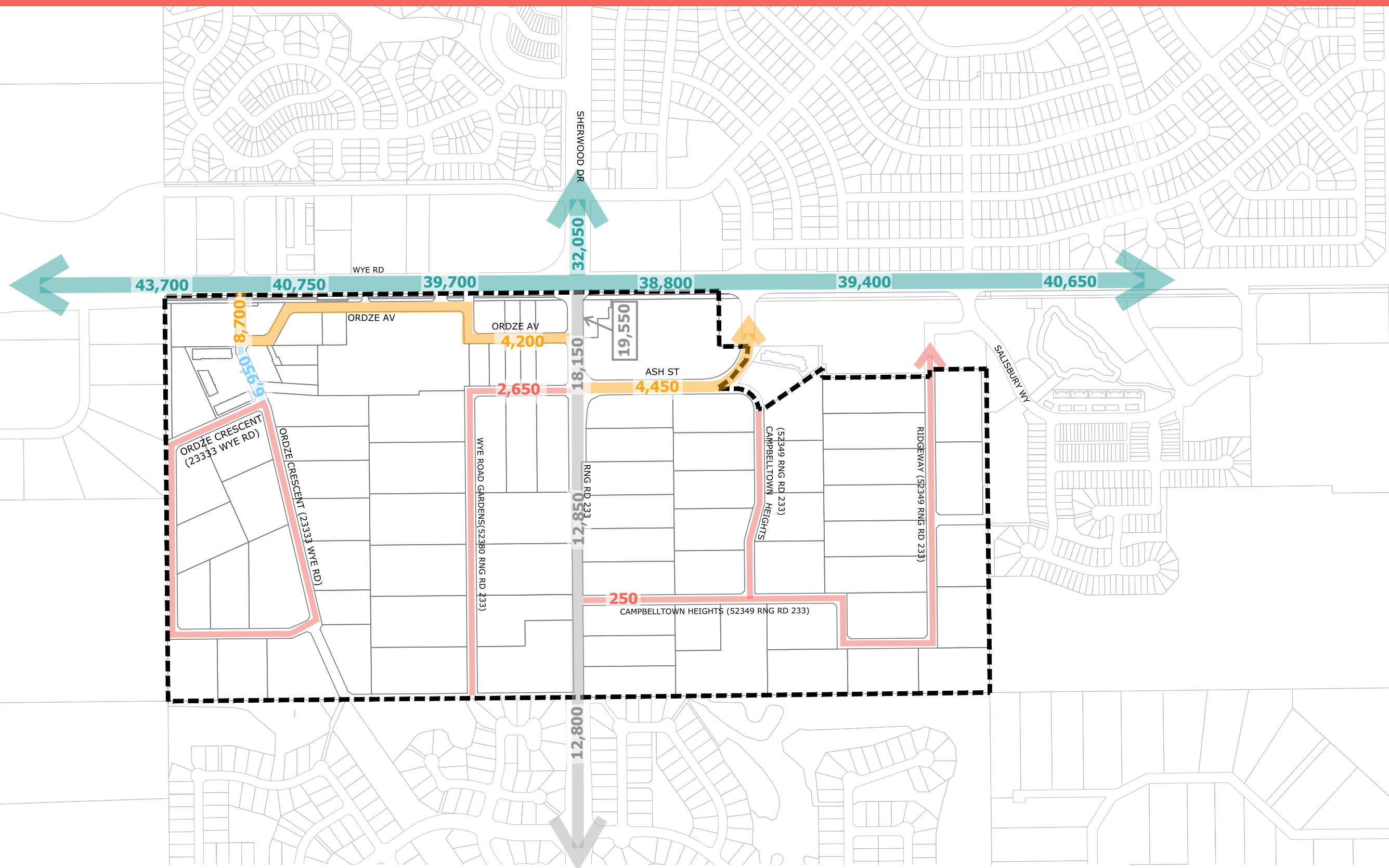
- Rural Local Road
- Rural Collector Road
- ## PM Peak Hour Traffic Volumes

Future (2044) Baseline Peak Hour Traffic Volumes
Figure 9

January 2021



South of Wye ARP Project



Legend

- South of Wye ARP Project Boundary
- Urban Arterial Street
- Urban Collector Street
- Urban Local Road

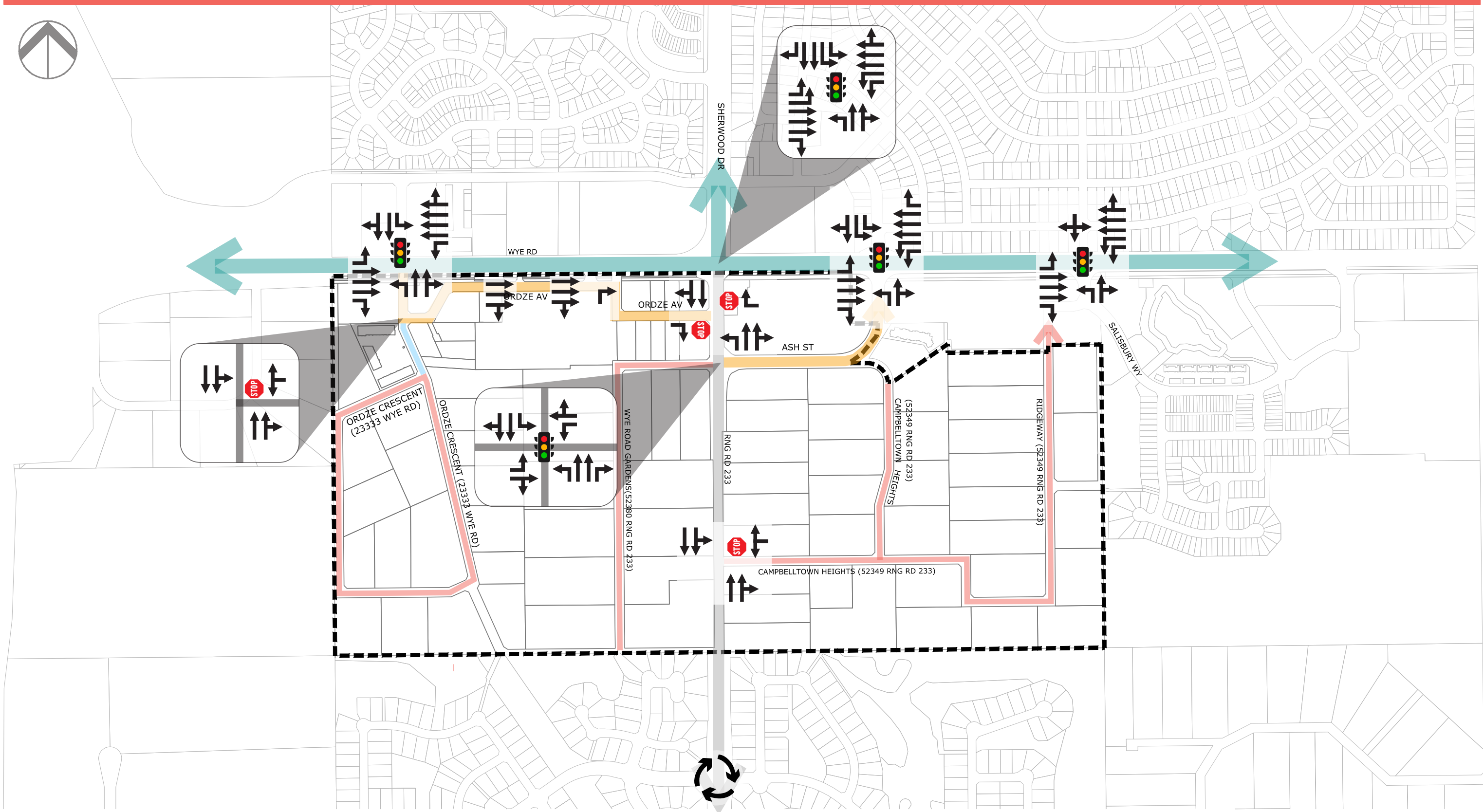
- Rural Local Road
- Rural Collector Road
- ##/##/##/## Daily Link Traffic Volumes

Future (2044) Daily Link Traffic Volumes
Figure 10

January 2021



South of Wye ARP Project



Future Lane Configuration and Traffic Control
Figure 11

January 2021



MODIFIED DATE: 2020.10.06
S:\Projects\2014-0994-00 South of Wye ARP\CAD\05 - Planning\Drawings\20M-00994-TRN-SOUTH OF WYE ARP - EXISTING ROAD NETWORK AND TRANSIT.dwg

4 DEVELOPMENT PRINCIPLES

4.1 INTRODUCTION

Transportation planning principles are used to guide the development of the transportation network, analysis and recommended cross-sections for streets and roads within the plan area. Land use planning principles will inform the development of potential land use concept scenarios for the Project Area. Land use planning principles also provide a framework for transportation planning principles.

Draft transportation planning principles have been developed based on the background review, public engagement results and established planning practices for discussion purposes. Draft principles are expected to be refined in greater detail as the project progresses and categorized into goals, objectives and policies with a similar format to the *Municipal Development Plan (2017)*.

4.2 APPROACH

The transportation principles, goals, objectives and policies are based on the results of background review, public engagement and planning practices. The Municipal Development Plan provides high-level direction for the transportation network in the South of Wye ARP Project Area through the general transportation policy section, Compact Development Policy Area and Country Residential Policy Area as described in **Section 3.2.1**. Policies identified for the Compact Development Policy Area apply to the Project Area within the Urban Services Area which will be confirmed through land use scenario development.

Public engagement feedback provides insight on gaps and opportunities for the transportation network. Goals, objectives and policies address public engagement input that was collected on traffic, active modes, safety and transit. Specific feedback provided on Range Road 233 and traffic movements on to Wye Road highlight issues that should be addressed through transportation policies and network development.

Planning practices such as context-sensitive complete street design, transit supportive development, multi-modal transportation networks, safety and intersection design are key elements that are considered with all plans and are incorporated through goals, objectives and policies.

4.3 STAKEHOLDER DISCUSSION

Public engagement feedback was collected through residential and commercial meetings and surveys that took place in October 2020. Engagement objectives included understanding values and vision for the area and to understand key opportunities and challenges for commercial and residential areas. A summary of Phase 1 public engagement activities and feedback is included in the *Phase 1 What We Heard Report*.

Key transportation themes that emerged through the public engagement responses included:

- Congestion: many responses indicated concerns with the volume of traffic on Range Road 233 and the queues for north bound lefts from Range Road 233 on to Wye Road. Participants suggested improvements to transportation infrastructure such as road widening of Range Road 233, signal changes and traffic calming measures.
- Wayfinding: participants indicated difficulties navigating Ordze Avenue and the commercial area in the northern area of the plan. There are two public accesses and 6 private accesses on the north side of Ordze Avenue and 13 private accesses on the south side of Ordze Avenue that may be contributing to the complexity.
- Active Transportation Options: a common issue that was raised included the need for more active transportation connections. Sidewalks through the commercial area and trails that support walking and cycling that connect green space and key destinations were suggested. A walking/cycling trail along Range

Road 233 was also highlighted.

- Parking: more parking stalls in commercial parking lots were highlighted by survey respondents while commercial participants felt that future parking requirements should be revisited in the context of mode shift.

Overall, feedback indicated that the transportation network required improvements with context-sensitive design and enhanced active transportation options.

4.4 PROPOSED PRINCIPLES

Six draft Guiding Principles have been developed as part of the early project development process. While many of these will overlap with transportation planning, there is one key transportation draft Guiding Principle. Guiding Principles will be supported by draft goals, objectives and policies that will be refined as the plan develops.

Improve the transportation network: *Where appropriate, transportation upgrades to accommodate modes including vehicles, pedestrians, and cyclists will be required to support redevelopment. The local active transportation network will be expanded to increase connectivity between country residential areas, publicly owned lands, commercial amenities, and transit facilities.*

Range Road 233 will be managed and maintained as a key arterial connection and will include active transportation infrastructure.

Potential tools to achieve this draft Guiding Principle in the Project Area may include:

- Supporting the safe movement of all modes, ages and abilities;
- Developing and maintaining a connected, efficient, legible, and context-sensitive street network that supports the movement of people to, from and through the Project Area; and
- Connecting natural areas and other destinations within the Project Area and adjacent neighbourhoods.

Potential tools to achieve this draft Guiding Principle in the urban area may include:

- Increasing residential and commercial transit options and locating commercial businesses closer to arterial/collector roads through fixed-route or on-demand transit services;
- Providing active transportation connections to transit;
- Enhancing public realm street design in commercial areas; and
- Considering the impact of off and on-street parking on the public realm and the transportation system.

Potential tools to achieve this draft Guiding Principle in the rural area may include:

- Increasing rural residential transit options through on-demand transit; and
- Providing all ages and abilities active transportation connections to key destinations through multi-use-trail connections, separated sidewalk or accessible shoulders where appropriate.

5 SUMMARY

The South of Wye ARP Project Area is composed of commercial uses in the Urban Service Area and country residential uses in the Rural Service Area. This mix of uses is supported by an urban and rural road network and a limited pedestrian and cyclist network. The existing land use structure creates opportunities and challenges that must be considered with the development of the ARP(s).

Public engagement feedback highlighted four broad transportation categories to consider with the ARP Project: 1) Congestion, 2) Wayfinding, 3) Active Transportation Options and 4) Parking in the commercial area. Maintaining traffic flow onto Wye Road from the Project Area and redesigning Range Road 233 to accommodate greater traffic volumes and active transportation was raised several times. Increasing active transportation options through the Project Area to connect destinations and support recreational travel was also raised. Public engagement results were used to develop Guiding Principles centred on improving the transportation network and enhancing the active transportation network.

The existing street and road network primarily provides access to country residential within the Project Area. Wye Road supports local and regional vehicle, transit and truck access to commercial uses south of Wye. Range Road 233 serves vehicles and provides a north-south connection through the Project Area from Highway 628 to Wye Road. Under existing traffic volume conditions, the network is experiencing some operational constraints, particularly for left-turn movements at Wye Road and Range Road 233 and at Wye Road and Ordze Road (23333 Wye Road). During the future baseline conditions, operations deteriorate slightly and through movements on Wye Road begin to near capacity at Range Road 233. While there are currently no transit stops within the Project Area, there is the opportunity to enhance accessibility to transit through the Ordze Transit Centre north of Wye Road and transit stops on Wye Road. The active transportation network within the Project Area is limited. North-south and east-west all age and ability active transportation networks would support increased active transportation use in the Project Area.

The background report assessment will be used to inform potential land use concept scenarios and provides a baseline to compare against. Draft Guiding Principles will be tested and further refined through the development of the ARP(s) and expanded into goals, objectives and policies which will be used to evaluate potential land use concept scenarios.