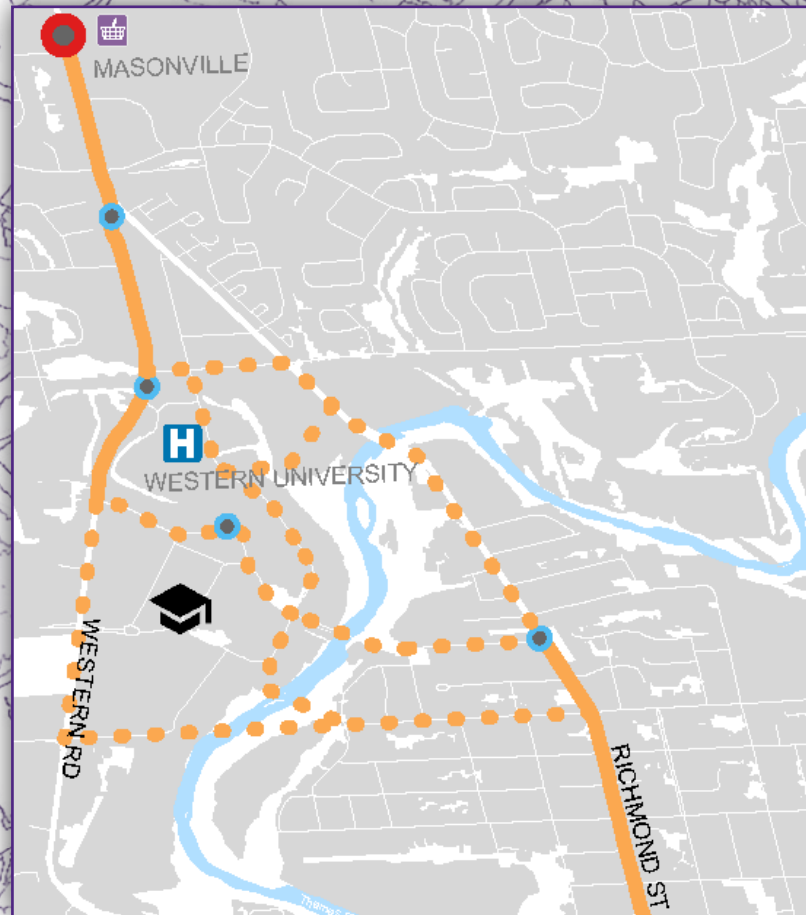


Bus Rapid Transit Backgrounder



December 2016

Background

The City of London is completing the second stage of [*Shift*](#), its public transit planning exercise. *Shift*, focuses on rapid transit, along with vehicular and active transportation, as part of a system that will help London grow and prosper. This stage will develop a detailed design for the preferred rapid transit routes and provide a plan to build the rapid transit network including how it will be funded.

In May 2016, the City updated its plan to move away from Light Rail Transit (LRT) to a [Bus Rapid Transit](#) (BRT) model.

In June 2016, following consultations with the campus community, Western's Board of Governors unanimously expressed its support for both improved transit in the city and the introduction of rapid transit running to campus. However, the Board did not support LRT routes traversing through campus, or BRT routes traversing through campus if it is conditional to being convertible to LRT in the future.

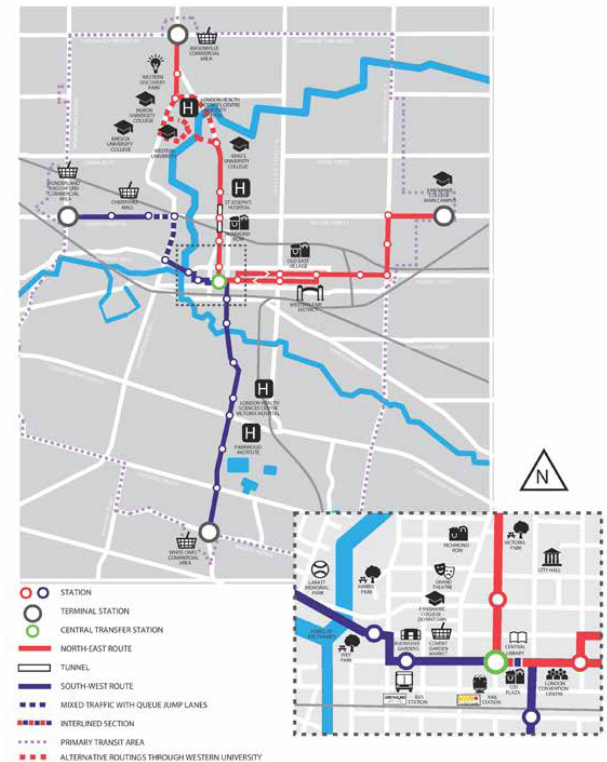
The Board also stated that the university would complete an open-space-and-landscape-planning exercise intended, in part, to make the campus a more pedestrian-focused space with limits on vehicular traffic. This exercise, which is underway, will include an assessment of where transit routes should go, as well as the possible construction of transit hubs

Bus Rapid Transit

The City and the university have continued to work towards finding a solution to ensure that existing bus transit and the proposed BRT provide convenient service to campus while maximizing ridership and service efficiency, and minimizing environmental and social impacts at Western.

Five route alternatives have been identified for consideration and the City plans to have final routing no later than January 2017. In order to choose the best option, it will be important to understand the potential implications to all activities on campus, including academia, research and leisure

The university is working with the City on a technical assessment of BRT route alternatives. These will be evaluated against objectives of Western's Strategic Plan, Campus Master Plan and emerging Open Space Plan.



Vision & Objectives

Strategic Plan Goals (2013)	Campus Master Plan (2015)	Emerging Open Space Plan Principles (2016)
<ul style="list-style-type: none"> ▪ Raise Expectations: Create a world-class research and scholarship culture ▪ Lead in Learning: Provide Canada's best education for tomorrow's global leaders. (international attraction, diversity, sustainability ethos) ▪ Reach Beyond Campus: Engage alumni, community, institutional and international partners. ▪ Take Charge of Destiny: Generate and invest in new resources in support of excellence. 	<p>Core Principles</p> <ul style="list-style-type: none"> ▪ Support academic mission ▪ Provide the best student experience ▪ Guide growth and change ▪ Enhance quality of campus environment ▪ Support interdisciplinary study and interaction ▪ Ensure safety, health, access and mobility ▪ Incorporate sustainability <p>Key Initiatives</p> <ul style="list-style-type: none"> ▪ Intensify the Core Campus ▪ Improve pedestrian environment of Western Road ▪ Promote parking management and alternatives ▪ Improve campus connectivity (particularly within campus) ▪ Create high quality public spaces ▪ Identify/define campus gateways 	<ul style="list-style-type: none"> ▪ Human Place: People are the priority on campus. It must be safe and inviting, encouraging interaction of the diverse campus community. ▪ Access: University should be connected to the larger London community by a diversity of modes. ▪ Equity: All people are valued. Access, use, enjoyment and learning on the campus should be available to all irrespective of culture, income or physical ability. ▪ Mobility: The campus is a connected place where people move easily between buildings and through spaces via a variety of modes. Physical activity is valued to promote health of body and mind. ▪ Resilience: The campus has and will endure change. Redundancies and flexibility ensure durability. ▪ Pedagogy: The campus is a place of learning. Spaces and systems must support the educational mission and promote learning.

Technical Assessment Criteria

There are several technical assessment criteria that will be considered, including:

- The number of proposed rapid transit stations servicing the campus and the attractiveness of particular station sites.
- The length of the route from Richmond Street at Huron Street to Western Road at Windermere Road.
- The approximate transit travel time along the assessed route assuming a top operating speed of 35 km/hour on internal campus roads.
- A sum of all the existing peak transit boardings within 400 m of the stations along the route.
- The walk time between the geographic centre of campus (McIntosh Gallery) as identified by the City of London and the closest rapid transit station on the route.

Evaluation Metrics

Plan Principle/Objective	Qualitative Evaluation Measure(s)
<p>Attract top talent: strengthen the ability of the University to compete in attracting leading faculty and top scholarship students from across Canada and the globe.</p>	<ul style="list-style-type: none"> ▪ Efficiency of connection to the Downtown and other key regional destinations. ▪ Legibility of route and access to destinations.
<p>Lead in Learning: Support leading research and teaching</p>	<ul style="list-style-type: none"> ▪ Potential impacts on sensitive research and other activities
<p>Promote sustainability: Reduce environmental impacts with regard to transportation-related emissions and stormwater from surface runoff.</p>	<ul style="list-style-type: none"> ▪ Ability to support a mode shift among the university community to reduce vehicle kilometers traveled (VKT). ▪ Potential to enable reduction in impervious surface area dedicated to vehicle demand such as travel way widths and surface parking
<p>Promote a pedestrian-oriented campus: Support and enable the reduction or elimination of private vehicle traffic in the core of the campus</p>	<ul style="list-style-type: none"> ▪ Potential to negatively impact pedestrian safety ▪ Potential to provide a non-auto alternative to access campus destinations
<p>Enable sustainable growth: Support planned campus growth by providing access, especially by non-auto means</p>	<ul style="list-style-type: none"> ▪ Potential to reduce vehicle trip generation rates at planned campus expansion sites ▪ Potential to reduce parking demand
<p>Campus connectivity: Strengthen the connection and accessibility between campus precincts.</p>	<ul style="list-style-type: none"> ▪ Viability to use the proposed alignment to meet intra-campus connection demands
<p>Quality of place: Facility design compliments visual character of the campus and campus landscape</p>	<ul style="list-style-type: none"> ▪ Potential to negatively impact or degrade elements that contribute to campus identity and pride ▪ Potential to lead to improvement of Western Road

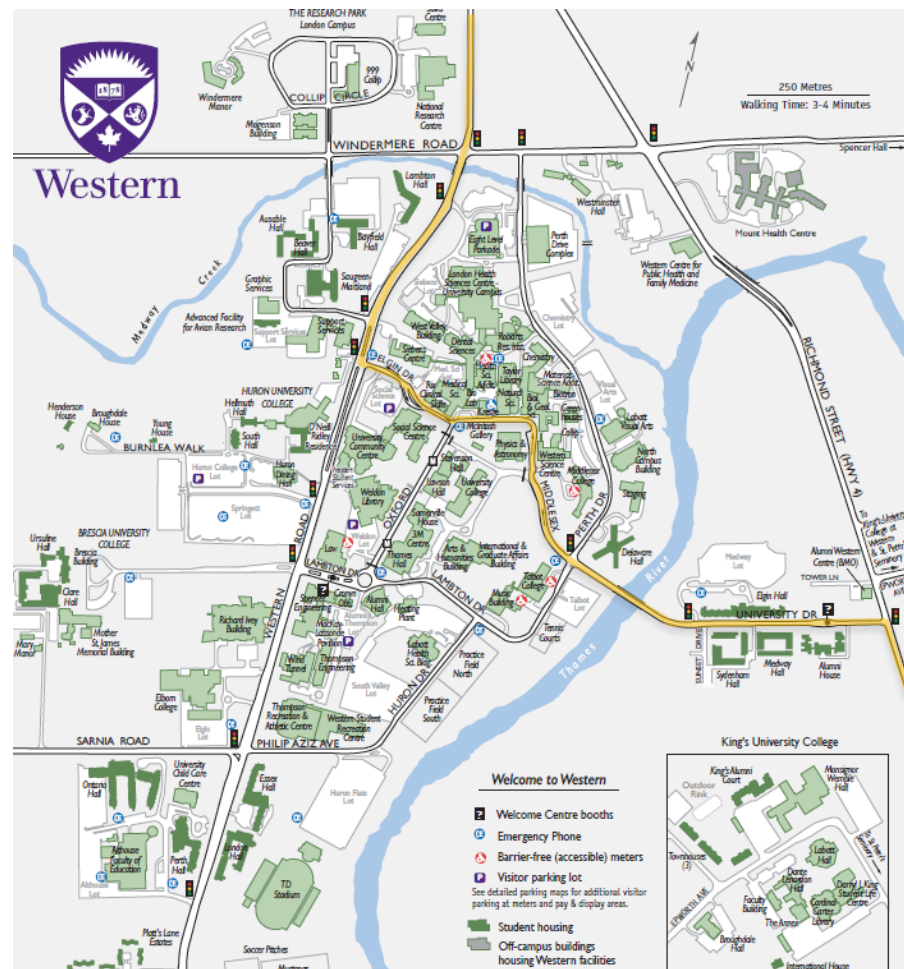
1. Middlesex Drive Alternative

Potential Benefits

- High level of service to major campus trip generators
- Convenient stop location to service students, faculty and staff
- Maintains existing transit hub location
- Partially serves planned campus expansion areas
- Relatively short segment of Western Road impacted.
- If autos are prohibited in core campus area, provides best connectivity and service to highest density of uses.
- If autos are prohibited in core campus area, proposed route and stop location have strong potential for place-making as unique, high quality and identifiable transit plaza and corridor.

Potential Impacts

- Proximity to sensitive research and arts facilities could impact these activities, although with substantially less impact than LRT
- Stop location could further exacerbate already significant modal conflicts (bicycle, pedestrian, transit and vehicle) at Oxford/Middlesex/Elgin intersection.
- Initial concepts from the city may require reconstruction or potential widening of University Drive bridge, reconstruction of Richmond Street gates and potential widening of other campus streets. Mitigations are available that could eliminate the need for major widening and avoid impact to the gate.
- Requires operational changes to provide two way transit service on Middlesex Drive and Elgin Road.
- Could result in conflicts between transit and bicycle facility on Middlesex Drive.
- Potential widening of Western Road.



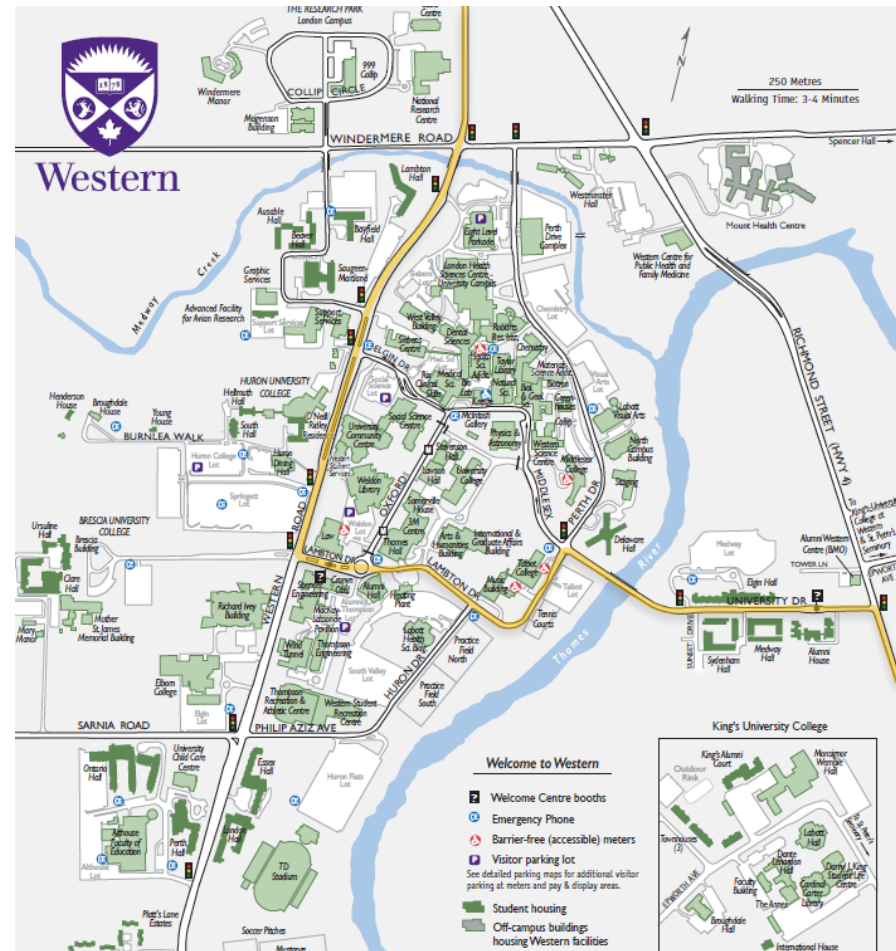
2. Lambton Drive Alternative

Potential Benefits

- Good service to major campus trip generators
- Generally removed from sensitive research activities
- Convenient stop location to service students, faculty and staff
- Maintains existing transit hub location
- Good connectivity to planned campus expansion areas
- If autos are prohibited in core campus area, provides good connectivity and service to highest density of uses.
- Has strong potential to maintain excellent access if autos are prohibited in core campus area.
- Strong potential to support/enable removal of autos from core campus and thus greatly reduce pedestrian/vehicle conflict/risk
- Corridor and Alumni Circle have strong potential as unique and high quality transit plaza space; could remove substantial impervious surface around the Circle.

Potential Impacts

- Longer segment of Western Road is impacted
- Conflicts would remain between pedestrians, bicycles and transit – particularly at Alumni Circle
- May require reconstruction/potential widening of University Drive bridge and potential widening of other campus streets (if vehicles are not prohibited).
- Stop location is further from campus core.
- Slightly longer transit travel time.



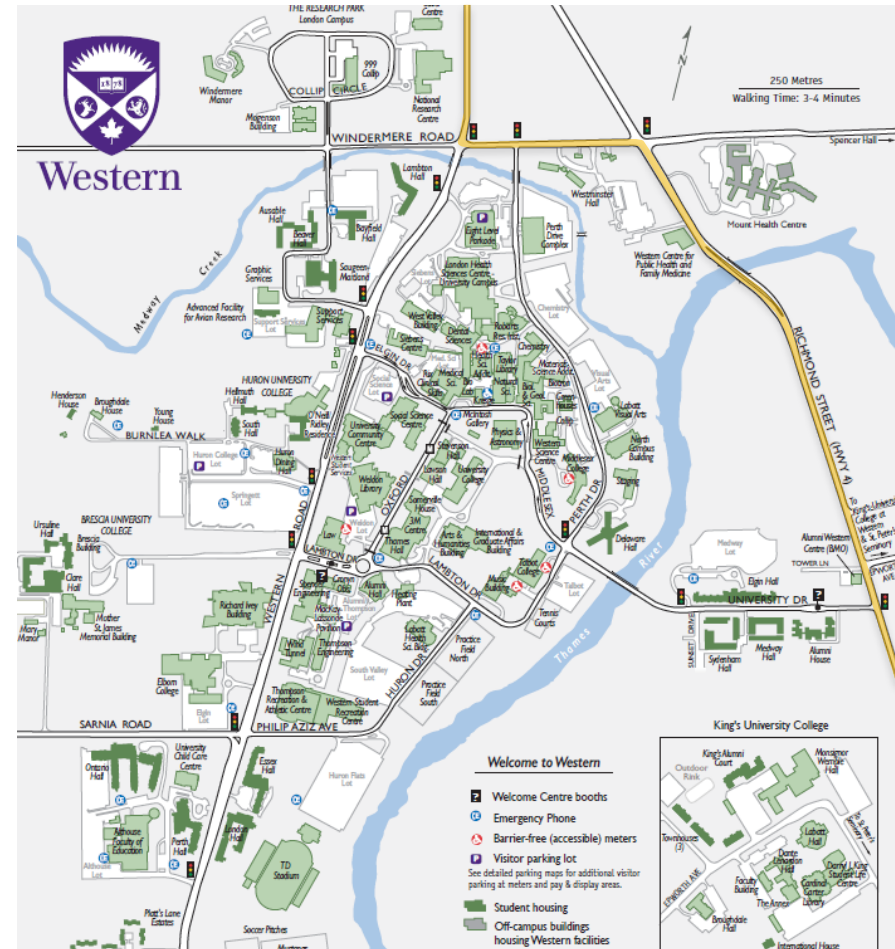
3. Richmond/ Windermere Alternative

Potential Benefits

- Little to no impact on university street or campus
- Fast travel time to the Downtown
- No change required in University Drive bridge
- Little impact on Western Road
- Generally removed from sensitive research activities
- Few additional conflicts between pedestrians and vehicles

Potential Impacts

- Stop locations are generally inconvenient for students, faculty and staff
- Does not well serve planned campus expansion areas
- Does not serve areas with highest density of uses.
- Does little to support removal of cars from core campus or replace lost connectivity if cars are prohibited from campus
- Stop locations are less obvious and intuitive.
- Lower projected transit ridership



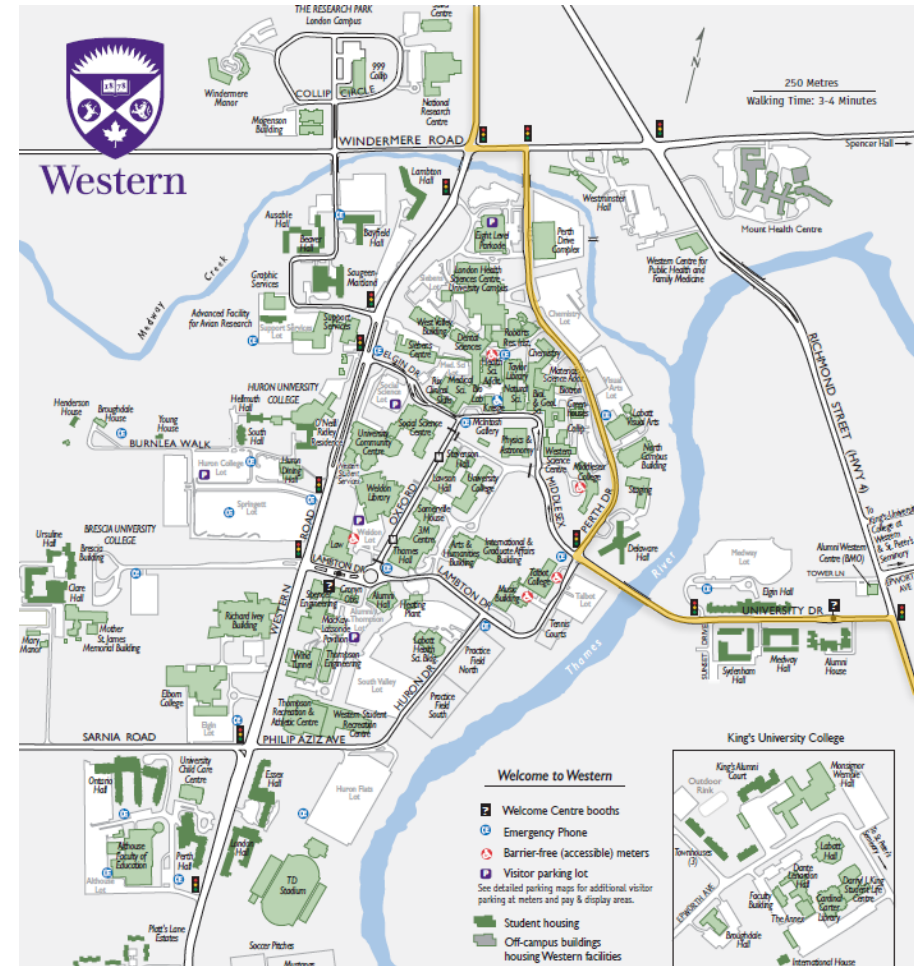
4. Perth Drive Alternative

Potential Benefits

- Limited impact on streets within the main campus
- Fast travel time to the Downtown
- Little to no impact on Western Road
- Generally removed from sensitive research activities
- Few additional conflicts between pedestrians and vehicles

Potential Impacts

- Stop locations are generally inconvenient for students, faculty and non-hospital affiliated staff
- Numerous curb cuts on corridor could make station siting difficult
- Does not well serve planned campus expansion areas
- Potential for a high level of pedestrian conflict at the intersection of University, Perth, and Middlesex Drives.
- Does little to support removal of cars from core campus or replace lost connectivity if cars are prohibited from campus. Could harm concepts to restrict auto access only to periphery streets if BRT operations constrain the street.
- Stop locations are less obvious and intuitive.



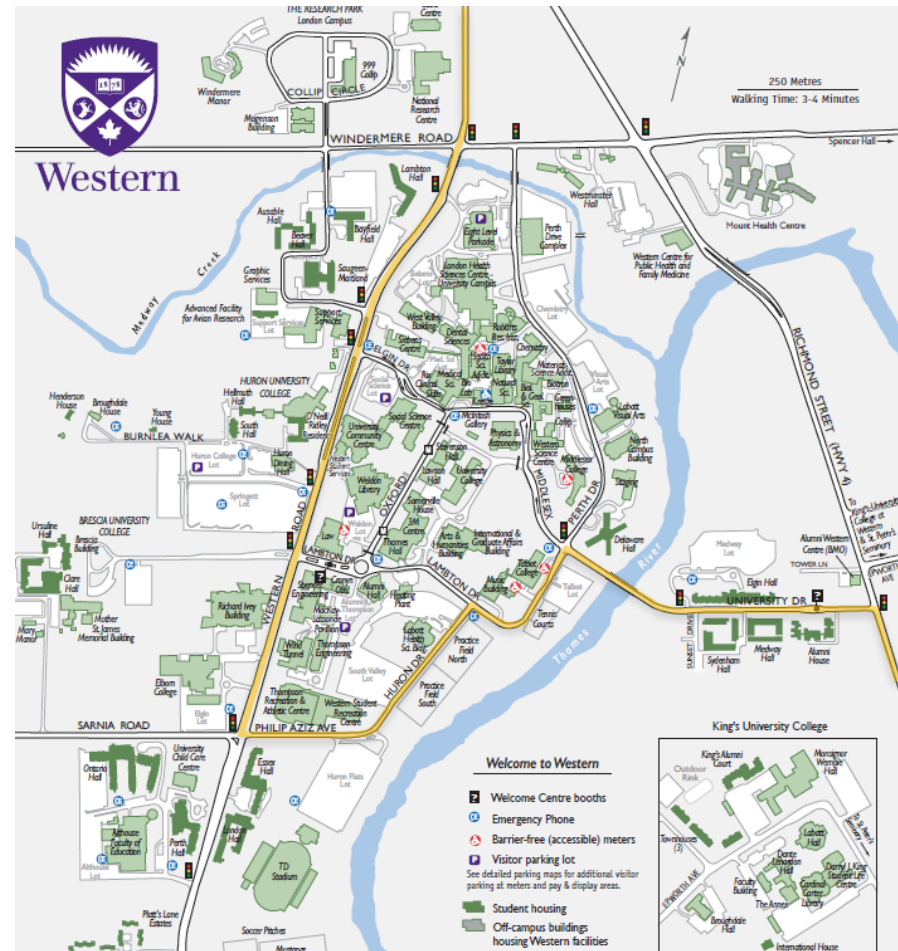
5. Philip Aziz Alternative

Potential Benefits

- Excellent connectivity to student housing
- Good connectivity to athletic facilities
- Good potential access to planned university expansion areas
- Generally removed from sensitive research activities

Potential Impacts

- Stop locations are less convenient to academic centre
- Could exacerbate pedestrian movement and safety at intersection of Philip Aziz and Western University traffic.
- Does little to support removal of cars from core campus or replace lost connectivity if cars are prohibited from campus. Could harm concepts to restrict auto access only to periphery streets if BRT operations constrain the street.
- Long travel time to the Downtown.



Summary Evaluation

University Objectives Metrics	Middlesex	Lambton	Windermere	Perth	Philip Aziz
Efficient connection to Downtown	Good	Good	Moderate	Poor	Poor
Legibility of route	Excellent	Excellent	Poor	Poor	Moderate
Impact on research and other labs	Poor	Moderate	Good	Moderate	Good
Potential for mode shift (reduced parking demand)	Good	Good	Poor	Poor	Moderate
Potential to reduce impervious surface	Moderate	Good	Poor	Poor	Poor
Impact on pedestrian safety	Poor	Moderate	Good	Good	Moderate
Access to campus destinations	Excellent	Good	Poor	Moderate	Moderate
Reduced trip generation for new development	Poor	Good	Poor	Poor	Moderate
Intra-campus connectivity potential	Good	Good	Poor	Poor	Poor
Potential visual impact	Poor	Poor	Good	Poor	Poor
Impact on Western Road	Moderate	Poor	Excellent	Excellent	Poor

Preferred Alternative

The Lambton Drive alternative is Western's preferred route as it:

- Provides the highest level of connectivity to existing and future trip generators
- Minimizes impacts to sensitive activities (academia, research, leisure)
- Supports the objectives of a largely vehicle-free core campus while retaining critical access to and through the campus
- Provides a strong opportunity for the creation of a signature transit mall through campus from the iconic gateway on Western Road
- Could lead to much needed improvements along the southern portion of Western Road

Preliminary University Conditions

Western has indicated four conditions be met for the BRT to be routed through campus:

- Transit vehicles must share travel lanes through campus to minimize any necessary widening of streets or bridge or affect historic gates.
- Transit streets, stops and other facilities must demonstrate excellence in design and respect the pedestrian-centric priorities of the campus.
- The selection of transit vehicle should eliminate, to the extent possible, noise, vibration or electromagnetic impacts.
- The addition of BRT on campus must support the objective to reduce overall vehicle traffic on campus.

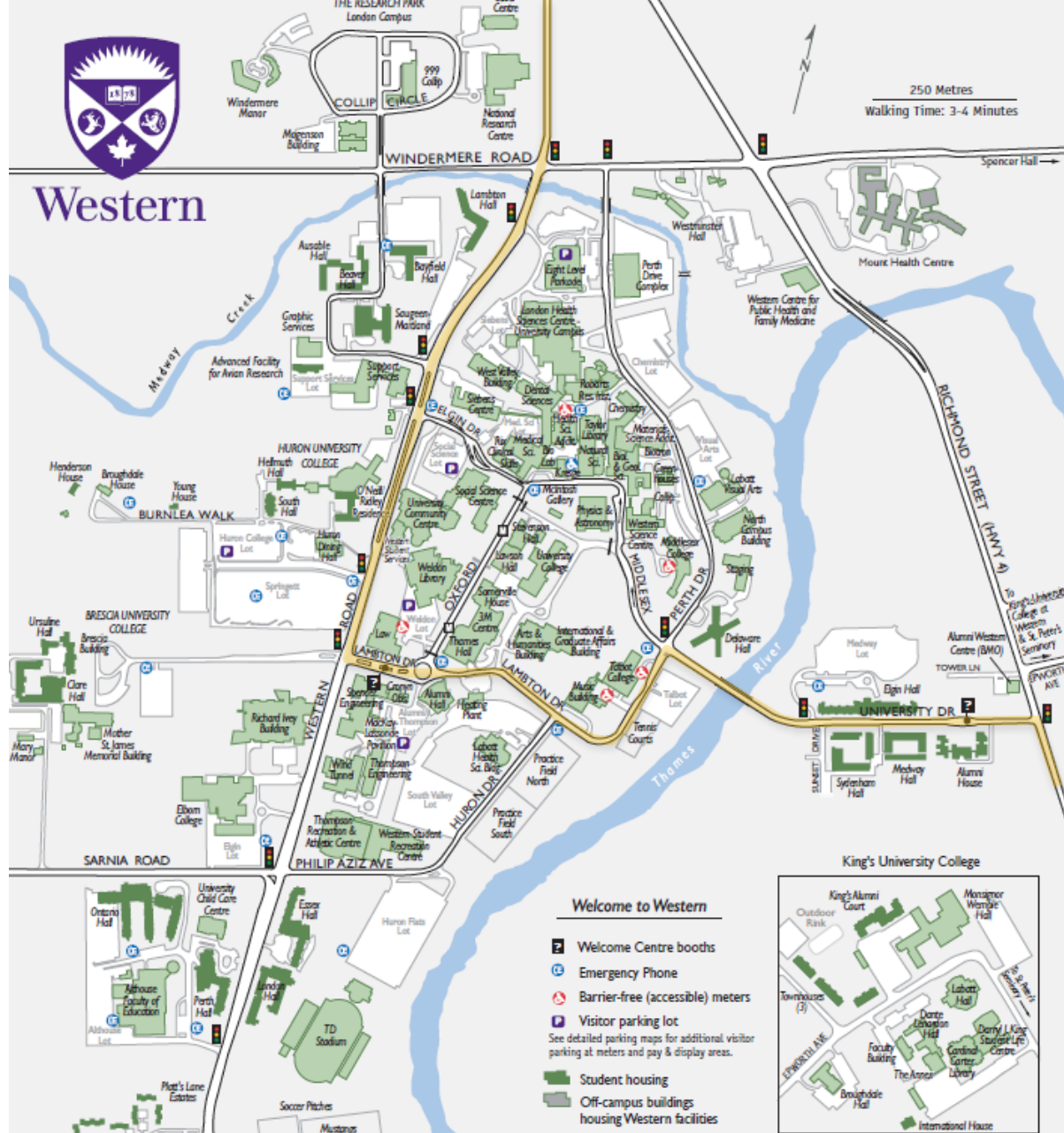
Next Steps

- Additional technical assessment
- Precedent Studies
- Further development of conditions for approval
- Consultation with the campus community through December and January
- Recommendations will be considered by Western's Board of Governors on January 26, 2017





Western



Welcome to Western

- Welcome Centre booths
 - Emergency Phone
 - Barrier-free (accessible) meters
 - Visitor parking lot
- See detailed parking maps for additional visitor parking at meters and pay & display areas.
- Student housing
 - Off-campus buildings housing Western facilities

